NETWORKWORLD

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Technology Insider: The ABCs of SOA

Service oriented architecture is a compelling everything-to technology and means many things to many people. We asked analyst James [...] of SOA pioneers [...]

The ROI of SOA:
Service reuse can lead to significant cost savings. **Page 56**

Core concepts:
A primer on the three core concepts behind SOA. **Page 58**

SOA tool kit:
Tips on what tools you'll need to build an SOA. **Page 62**

for additional stories on SOA standards, Web services standards and how vendors are stepping up to the SOA plate. www.networkworld.com.

JEROME HART

IETF effort promises fewer net failures

BY TIM GREENE AND DENISE DUBIE

The IETF has nearly completed a protocol that could address perhaps the major underlying cause of network breakdowns: misconfigured equipment.

The thrust behind NetConf, which could be adopted by year-end, is to reduce the programming effort involved in automating device configuration. The goal is to generate better configuration tools and encourage faster updating of these tools when network equipment vendors upgrade the software on their machines, industry experts say.

Software that keeps people out of the loop as much as possible when configuring switches and routers is a key to improving uptime, says Jeffrey Nudler, a senior analyst at Enterprise Management Associates. "The possibility of failures would be much reduced if you consider that changing device configuration causes 60% of downtime due to human error," he says.

Rather than rely on typing command-line interfaces or scripts that mimic humans entering CLIs, NetConf would use XML to configure devices and to more efficiently tap state and configuration data stored on devices, says Andy Bierman, chairman of the IETF's Network Configuration Working Group. "XML is just so much better at separating data from metadata and also adapting to the CLI," he says.

Bechtel says move to IPv6 is all about business

BY CARA GARRETSON

Bechtel's Fred Wettling has heard the often-quoted refrain that U.S. corporations aren't moving to the next version of IP — but he doesn't buy it.

"A lot of companies have some level of IPv6 going on, they're just not advertising it," says Wettling, manager of IT strategy and standards for Bechtel. His job is to investigate emerging standards and protocols to decide which are right for the $17 billion global contracting company. Having identified IPv6 as a "business imperative" for the company,
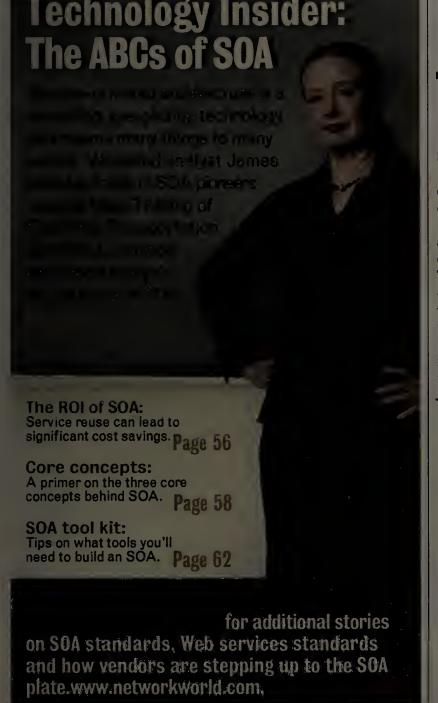
Ⓐ WiderNet

You won't find this book on Oprah's list

But *Routing TCP/IP* remains a hit for author, Cisco Press.

BY CAROLYN DUFFY MARSAN

Think of it as Harry Potter for the network set. Publisher Cisco Press next week will release a new edition of its best-selling book, *Routing TCP/IP* by Jeff Doyle. Cisco Press officials say it is one of the biggest releases in the company's nine-year history.
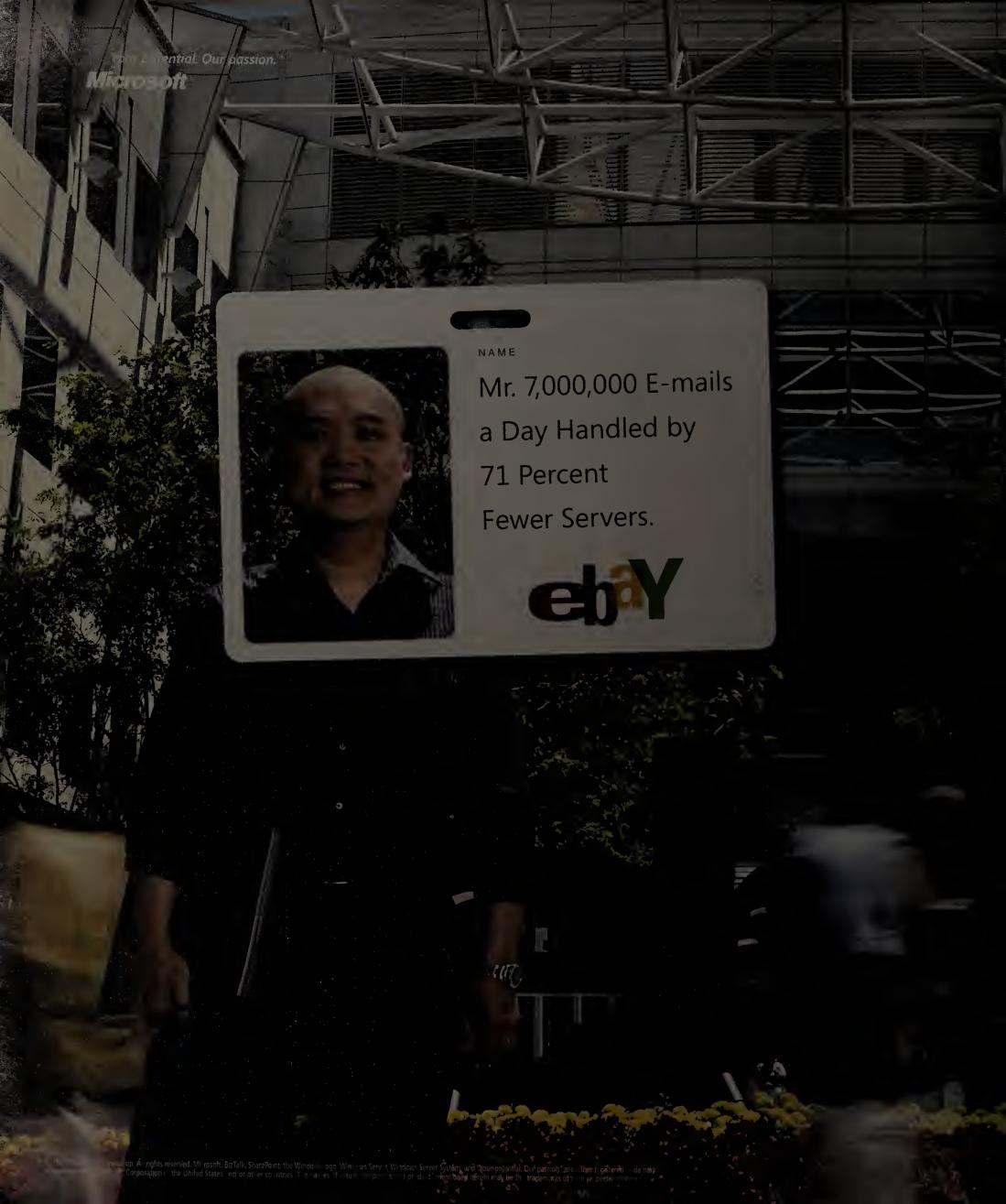
"One of the most exciting things we have planned for 2005 is the release of the second edition," says John Kane, editor in chief of Cisco Press.

"That's a flagship product of ours," he adds.

DAN VASCONCELLOS

"From a manager's view, the fact that we increased stability, improved operations, and reduced costs while adding so many users is very, very good."

Yuen Ho
Director of Corporate Systems and Architecture, *eBay*

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NETWORKWORLD

News

MANAGEMENTSTRATEGIES

TECHNOLOGY INSIDER

The ABC's of SOA

Service-oriented architecture is a sprawling, eye-glazing abstraction that means many things to many people. In this Technology Insider, SOA expert James Kobielus talks to SOA pioneers such as Maja Tibbling of Con-Way Transportation Services and provides real-world analysis on the ROI of SOA, the core concepts and tools you need.

Go online for additional stories on SOA standards, Web services standards and how vendors are stepping up to the SOA plate. www.networkworld.com

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Forum: Who should run and fund the Internet?
Columnist Johna Till Johnson has some ideas — and so do readers. Check out her column, then head into the forum and add your thoughts. **DocFinder: 9235**

Forum: Is Skype hazardous to network health?
Columnist Kevin Tolly jumps into the forum to answer questions posed by readers. **DocFinder: 9236**

Podcast: Challenging Skype
Damaka details its VoIP offering, how it differs from Skype and how it plans to make money with a free service. **DocFinder: 9237**

Buzz 2005
Learn about the enterprise technologies causing the latest industry buzz, from RFID and grid to holographic storage, iWarp and more. **DocFinder: 9143**

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Online help and advice

Telework Beat
Senior Editor Ann Bednarz says technologies are tailor-made for virtual call center settings. **DocFinder: 9238**

Home LAN Adventures
Freelance Editor Sandra Gittlen looks at the difference a flat-panel monitor brings to the home office. **DocFinder: 9239**

Small Business Tech
Columnist James Gaskin examines the

evolution of removable storage and says Iomega's REV drives could be the biggest product to hit the scene in years. **DocFinder: 9240**

Gibbsblogs
Mark Gibbs writes: "If you really need to get someone on, say, AIM, but you are out of the office and you don't have IM on your cell phone, what do you do? You Meebo." **DocFinder: 9243**

Seminars and events

Vortex 2005
Time is running out! Sign up for Vortex, Oct. 24-26 in San Francisco. At Vortex, you'll find out how to balance the need for innovation with the realities of existing legacy systems. Learn what's working and what's not from innovative CIOs from Levi Strauss, Fidelity, Hasbro and more. **DocFinder: 9241**

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NEWSbits

SBC to retain AT&T name, report says

■ Although no official word has come from the company, press reports continue to become more emphatic regarding SBC's apparent intent to use the AT&T corporate and brand name instead of its own once its acquisition of the 130-year-old storied franchise has cleared regulatory hurdles. *USA Today* has reported that the decision to go with AT&T has been reached by SBC executives, although the newspaper said its sources indicated that SBC might retain the SBC brand in some capacity, perhaps within the 13 states it now provides with local phone service. The FCC is expected to take up the SBC/AT&T deal at its Oct. 28 meeting. SBC CEO Ed Whitacre had indicated earlier that he was leaning toward retaining the AT&T moniker.

Security vendors flag own flaws

■ Users of Symantec's AntiVirus Scan Engine are being advised to upgrade their software after the company revealed a critical security bug in the product. The flaw could theoretically let an attacker take control of an affected system, according to Symantec. Because of a bug in the Scan Engine's administrative interface, it's possible for an attacker to take over a system running the software by creating a specially crafted HTTP request, Symantec says. The attacker would need to gain access to an exposed administrative port on the server for this attack, the report said. Users of versions 4.0 and 4.3 of the Scan Engine product are advised to upgrade to Version 4.3.12. Symantec was not the only security vendor last week to report a major security bug in its products. Kaspersky Labs also reported a similarly critical flaw in its Antivirus Library, which is used by a wide range of the company's anti-virus products.

Check Point buys IDS vendor

■ Check Point Software last week announced the acquisition of Sourcefire for $225 million. Sourcefire was founded in 2001 by Martin Roesch to commercialize the open source intrusion-detection system he had created and fostered through communal input. In a conference call with Wall Street analysts last week, Check Point CEO Gil Shwed said Sourcefire was not profitable, though

{quote of the week}

"It is to me a fundamental right to have access universally to information. . . . This is a civil rights issue as much as anything else."

San Francisco Mayor Gavin Newsom, discussing his city's efforts to provide universal Wi-Fi access.

he expected to see that change next year. Sourcefire might contribute up to 8% of Check Point's revenue, he said. Check Point plans to "keep the Snort technology open," he said. He added that Check Point was impressed by Sourcefire's Defense Center event-management console and the Real-time Network Awareness sensor for analyzing security threats by reviewing internal network traffic flows. Sourcefire has 140 employees, and Wayne Jackson, Sourcefire's CEO, said plans call for Roesch and other Sourcefire employees to join Check Point.

Ex-PeopleSoft CEO joins rival

■ Craig Conway, ousted as PeopleSoft's CEO, is tak-

TheGoodTheBadTheUgly

< Hey, hey, hey, that's my Web address. Comedian Bill Cosby last week was awarded control of the Internet domain name www.fatalbert.org by a United Nations panel, according to an Associated Press report. Cosby had complained that the URL owner infringed on his trademark rights for the Fat Albert character, plus that the URL was being used to send Internet traffic to a sex-oriented Web site.

JP Morgan's gag order. You know how hard it can be to find non-vendor speakers at network and IT conferences? JP Morgan Chase made it even harder last week when it nixed a scheduled presentation about the affect of Sarbanes-Oxley on IT service and asset management by Mark Bradley, senior network engineer and team lead at the financial firm. A Peregrine Systems employee, who broke the news to attendees at the IT Infrastructure Management Conference & Expo 2005 in Orlando, wound up doing the presentation solo.

Firefox site hacked. For the second time in three months, a security breach has shut down the marketing Web site used to promote the Firefox browser. Late last Monday, members of the Spread Firefox community were notified that their Spreadfirefox.com site had been hit by attackers looking to exploit a bug in the TWiki collaboration software, which had been running on the server. The Mozilla Foundation does not believe that any sensitive information was compromised in the attack, but it is encouraging the approximately 100,000 Spread Firefox members to reset their passwords.

ing a small step back into the CRM software market — and another jab at his nemesis, Oracle. Hosted CRM provider Salesforce.com said last week that Conway is joining its board of directors. Salesforce.com CEO Marc Benioff praised Conway as a veteran executive whose strong operational skills and knowledge of the CRM industry will benefit Salesforce.com. The company is an increasingly fierce rival of Oracle, which acquired PeopleSoft last year, soon after PeopleSoft's board dismissed Conway. Conway has stayed away from the IT industry since leaving PeopleSoft one year ago, at the height of its resistance to Oracle's hostile-takeover bid.

Sprint Nextel sues Vonage

■ A unit of Sprint Nextel last week sued Vonage and another VoIP provider, alleging that the companies are infringing on its patents. Sprint says the companies violated seven patents on technology for processing and delivering packetized voice and data, including VoIP. Its suit in U.S. District Court for the District of Kansas seeks an injunction against further infringement and unspecified monetary damages. In addition to Vonage, the suit names Voiceglo Holdings. Vonage is one of the biggest VoIP service providers in the U.S., with more than 1 million active lines, according to the company. Voiceglo also provides packet-based phone service over the Internet. Vonage and Voiceglo were not immediately available for comment.

"Model of the Management Layer Molecule: Stacks of management particles on top of the single worker particle, increasing the heat on the worker."

Tom Mehrtens is the winner of our latest Weekly Caption Contest. Check back each week for a new contest. www.networkworld.com/weblogs/layer8

Layer 8

IT guru extols utility computing use

BY ANN BEDNARZ

ST. PAUL, MINN. — IT thought leader Nicholas Carr headlined an event here last week that brought together local IT executives who debated the merits and hitches of utility computing.

Carr introduced his ideas about how corporate computing is destined to evolve. He compared it with the emergence of public utilities a century ago. Manufacturers used to run their own power plants, but got out of the electricity supply business once more affordable, reliable and efficient services became available from public utilities.

In a similar way, Carr expects IT to go from being an asset that companies build and own, to a service that they purchase from utility providers. He acknowledged the idea that utility computing has been touted for a long time, but has yet to fulfill expectations.

"Skepticism is in many ways justifiable and a smart approach at this early stage," he said. Nonetheless, Carr thinks it's time for IT executives to begin challenging their skepticism.

Underutilization of existing IT assets will help drive the migration to the utility world. "When you look at any study of IT capacity utilization in companies today, the numbers are astoundingly low," Carr said. Analyst firms put typical server capacity in the 15% to 30% range, PC usage at about 5% and storage capacity at about 25% to 50%.

> **"When you look at any study of IT capacity utilization in companies today, the numbers are astoundingly low."**
>
> *Nicholas Carr, author of* IT Doesn't Matter *and the 2005 sequel*, The End of Corporate Computing.

"If you can centralize this stuff, you get much higher capacity utilization, much more efficient use of labor and a much more efficient model for distributing software," Carr said.

Another driver will be CIOs' desire to stem the tide of money and resources dedicated to basic IT maintenance, which consumes about 70% to 90% of typical IT budgets, according to Carr. "The only way to escape that squeeze is to get rid of that infrastructure, get rid of those assets that you're forced to maintain," he said.

One outfit that knows this firsthand is the city of Minneapolis. The city outsourced its network, systems, data center administration, desktops and disaster-recovery services to Unisys in 2003 in a move expected to save the city between $25 million and $30 million over the life of the seven-year contract. Going with an outsourcer has allowed the IT organization to focus less on maintenance and more on business process reengineering and improving business outcomes, said Bill Beck, director of business development for computer operations.

However, while the city extensively uses outsourcing, the arrangements are based on fixed capacity and don't yet incorporate the usage-based, variable pricing and delivery models that characterize the utility computing ideal. One area Beck would like to see more flexible options emerge is in application outsourcing.

"There's a gross lack of true application service providers [ASP] today," he said. It's not hard to find an ASP that will host an application, but finding one that will host, maintain and dole out access on an on-demand basis is difficult, Beck said.

For example, if there are 250 different PeopleSoft modules, Beck would like to give staff access to any of those modules whenever they need it. If it's a seasonal need, he doesn't want to pay for a license year-round. That's the kind of service the city is looking for now — and has been for a couple of years, Beck said.

Andrew Tessier shared some of the successes Park Nicollet Health Services has had outsourcing certain IT functions, including desktops. Over the last two years the healthcare provider has reduced its cost of ownership on workstations by about 250% and cut help desk response time from a few days to an hour, said Tessier, director of technical services.

Park Nicollet is billed on a per-seat basis, but there are incentives for Tessier to improve the technologies supported. In its latest desktop contract, Park Nicollet negotiated fees down by 35% after committing to reduce the number of workstation images supported from 18 to two, Tessier said. "It's a lot easier for them to manage, so we share the efficiencies," he said.

But while it works for some applications, outsourcing isn't suited to every system, Tessier said. It depends on the complexity and maturity of the technology. One area Park Nicollet isn't ready to let go of is its electronic records management system, for example.

That's the beauty of utility computing; companies can use service providers for pieces of their infrastructure as it makes sense, without sending everything out at once, Carr said.

It's becoming increasingly possible to move to a utility computing model, but it won't happen overnight, Carr said. "What it's going to take is an attitudinal change among the users of IT, that leap of faith that allows you to take what you have invested your own blood, sweat and tears in — and your company's money — to build and say, 'OK, the time has come to get this from an outside supplier.'" Managed hosting provider VeriCenter organized the event, and *Network World* moderated the discussion. ∎

Google's partnership with Sun draws skeptical analysis

BY JOHN FONTANA

Google may be a media darling flush with cash, but any attempt on its part to muscle into productivity and collaborative applications will find the company in an underdog role it might not be ready to handle, according to IT professionals and other industry experts.

Google last week laid out what many saw as an underwhelming partnership deal with Sun to distribute its toolbar with Sun's Java Runtime Environment software — a move that underscored Google's focus on finding more eyeballs to look at its advertising. The Sun partnership was seen as a dud because it came after days of red-hot hype suggesting that Google would add to its mail and instant-messaging services and begin offering over the Web Sun's StarOffice or open source OpenOffice.

Critics were quick to point out that both productivity suites are not designed for Web-based but rather client-based deployment, just like Microsoft Office, which was being portrayed as the target of Google's gambit.

"Could Google offer more of a Web-based technology built around OpenOffice technology? Yes it could," says Chris LeTocq, an analyst with Guernsey Research. "What I am saying is that there is a lot of great intellectual property associated with OpenOffice and Google has an opportunity using OpenOffice to redefine what desktop productivity means."

LeTocq says for a lot of users all they need in terms of a rich-text editor is something that works with their e-mail. "Do I see Google distributing OpenOffice or StarOffice as is? I don't see that happening," he says.

LeTocq says services-based computing — whether referred to as Web 2.0, Web services or component software — is a natural for Google to exploit using the underlying technology of OpenOffice. That technology includes text editing and spreadsheets used as features within other applications, such as a rich-text editor within e-mail.

That possibility was echoed in other reactions to the Google-Sun partnership. Goldman Sachs analyst Rick Sherlund wrote in a research note: "We suspect both Yahoo and Google will want to extend their e-mail products to look a lot richer and more like Microsoft Outlook (adding calendar and contact management to e-mail) and may decide to throw in spreadsheet and word processing capabilities while they are at it to be more competitive with Office."

A Google spokesman refused to comment on any future intentions even as Yahoo last week bought Upcoming.org for its calendaring technology.

"Google is going to see what they can do," says Bruce Elgort, the manager of e-commerce for a large manufacturer he did not want to be named. "But what they have now is tons of resources and brand recognition. It could be a flop just like Netscape's [foray into collaboration]. It could go either way."

Elgort says Google can use Asynchronous JavaScript and XML (AJAX) to create the next Excel or a new Word. AJAX is a set of programming controls that lets users create Web-based applications that behave like desktop software. Google has exploited AJAX for some of its most eye-popping services such as Gmail and Google Maps.

"But the question is, will the enterprise adopt it?" Elgort asks. "It would take years and years for Google to become a vendor of enterprise-class software."

IBM and Microsoft are working to evolve their productivity/collaboration software to the network-

Grid taking shape in enterprise nets

End users, vendors discuss how the technology can maximize capacity and more efficiently process jobs.

BY DENISE DUBIE

BOSTON — Grid computing continues to gain ground in enterprise IT as the technology proves its mettle solving practical business problems without requiring massive investments.

Companies such as Bank of America, Credit Suisse First Boston and Johnson & Johnson last week converged at the inaugural GridWorld conference in Boston, along with some 400 attendees, to talk technology and share experiences.

Touting the business benefits of grid, enterprise IT managers and industry watchers detailed the practical applications of the once mostly academic technology.

"Grid, combined with Web services, forms a new ecosystem that has broad applicability," said Robert Cohen, a fellow at the Economic Strategy Institute.

Michael Oltman, vice president of Advantage Risk Processing Development at Bank of America in Chicago, told attendees it took six months to develop a grid based on DataSynapse's Grid Server software that supports 80 CPUs. The resultant system reduced the time it takes to run one application from 90 minutes to 20 minutes, and another from four hours to 40 minutes.

Once that proved successful, Oltman said the bank started to scale it up, first to 150 servers, then 225 and then 600. The 90-minute job was reduced to 4 minutes, the four-hour job to 20 minutes.

Today, the bank has some 3,000 machines on the grid — including Citrix servers and desktops — spanning four locations.

Bank of America anticipates the grid will save tens of millions of dollars over three years, but other justifications are just as significant. The bank can run complex risk scenarios during the day instead of overnight, and the grid is inherently more stable because failure of any one component doesn't take the system down.

The grid also has dramatically improved system utilization. "We used to freak out if server utilization got up to 75%," he says. Now the bank is just concerned about whether it has enough servers. Utilization on the core servers is about 90%, 24 hours per day, and scaling up simply requires the addition of more blades.
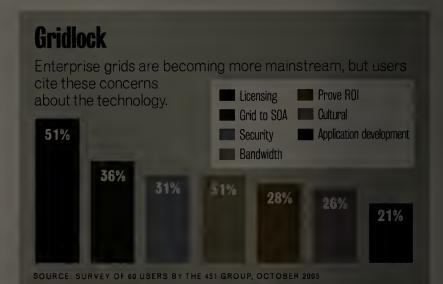
Moths to flame

With grids becoming more mainstream, vendors such as IBM, Platform Computing, Sun, SAS and Univa are launching services, products and partnerships.

IBM used the show to announce that it will load its IBM eServer platforms running both AIX and Linux with Univa's version of the Globus grid application, which includes software services and libraries for resource monitoring, discovery and management along with security and file management (see story in Enterprise Computing section, page 33). Big Blue separately announced services to verify applications as being grid ready.

In the same vein, Sun announced its Grid Readiness Offer, which the company says will give software vendors quick access to resources needed to build on grid computing technologies from Sun.

SAS detailed a partnership with Platform Computing that would integrate grid management functions into its data integration and data mining products. Earlier this year, SAS was among the first vendors to partner with IBM on its Grid and Grow initiative, which is designed to get companies across vertical industries started with grid.

"GridWorld demonstrated that this technology is starting to be adopted in areas outside of the traditional high-performance computing markets," said Dan Kusnetzky, a vice president with IDC. "The fact that Platform Computing and SAS were speaking about helping SAS users apply this technology without having to rewrite everything supports the belief that this technology is moving out of the lab and into the corporate data center."

That isn't to say all grid problems have been licked. Research by The 451 Group shows software licensing, security and bandwidth issues, among other things, can hinder grid rollouts (see graphic).

Because Bank of America's grid supports mostly batch processing using proprietary applications, Oltman said he didn't have any software licensing issues others might encounter.

But he did run into some cultural issues. Separate groups often don't want to share computing resources and as a result "grid fiefdoms" can emerge, Oltman said.

He got around it by adopting a federated model, where each business is guaranteed capacity and only shares resources when they are not in use. The minute the original owner needs them back they are restored. "This was important for acceptance of the concept," Oltman said.

Despite the challenges that remain, industry watchers agree that grid is here to stay. Many are starting to refer to the technology as service-oriented infrastructure, the perfect complement to service-oriented applications.

The Holy Grail, said Steve Yatko, global head of IT research and development at Credit Suisse First Boston, is service-oriented computing based on grid. And the underpinnings are virtualization, automation and commodity solutions.

"No one company can solve this," Yatko said. "It has to be a community of companies, standards bodies and academic institutions."∎

Gridlock

Enterprise grids are becoming more mainstream, but users cite these concerns about the technology.

- ■ Licensing
- ■ Grid to SOA
- ■ Security
- ■ Bandwidth
- ■ Prove ROI
- ■ Cultural
- ■ Application development

51% — 36% — 31% — 51% — 28% — 26% — 21%

SOURCE: SURVEY OF 60 USERS BY THE 451 GROUP, OCTOBER 2005

ISP spat leaves customers disconnected

Charges fly in peering dispute between Level 3 and Cogent.

BY STACY COWLEY, IDG NEWS SERVICE

A financial dispute between two major Internet backbone providers has led to dropped traffic between their networks — a high-stakes game of chicken that's angering customers affected by the network disruptions.

Last Wednesday, Level 3 Communications terminated its peering agreement with Cogent, a step Level 3 says it took after months of fruitless negotiations. Peering is a service agreement common among ISPs, which directly connects their networks and exchanges traffic without charge.

Peering is mutually advantageous when both partners exchange similar traffic volumes, but Level 3, in Broomfield, Colo., says it was carrying the bulk of the traffic in its deal with Cogent, in Washington, D.C. "The larger company ends up disadvantaged because it ends up providing essentially free capacity," says Level 3 spokeswoman Jennifer Daumler. "In Cogent's case, we determined that the arrangement was not reasonable or commercially viable."

> **❝**The root cause of this is Level 3's strong desire to pressure Cogent into raising our prices. They have been very vocal and very upset at our gain in market share and our pricing policy.**❞**
>
> *Dave Schaeffer, Cogent CEO*

Cogent CEO Dave Schaeffer disputes Level 3's characterization and says the dropped peering arrangement is Level 3's attempt to play hardball with a rival that has been undercutting it on pricing.

"The root cause of this is Level 3's strong desire to pressure Cogent into raising our prices," Schaeffer says. "They have been very vocal and very upset at our gain in market share and our pricing policy."

Large businesses and those for which network connectivity is critical generally have redundant agreements with multiple ISPs. For them, the dispute between Cogent and Level 3 is an annoyance but not a major problem; they can rely on their other vendors to route traffic across Cogent and Level 3's networks. For customers who are "single homed" solely to the network of either Cogent or Level 3, however, the dropped connection can leave some Web sites unreachable.
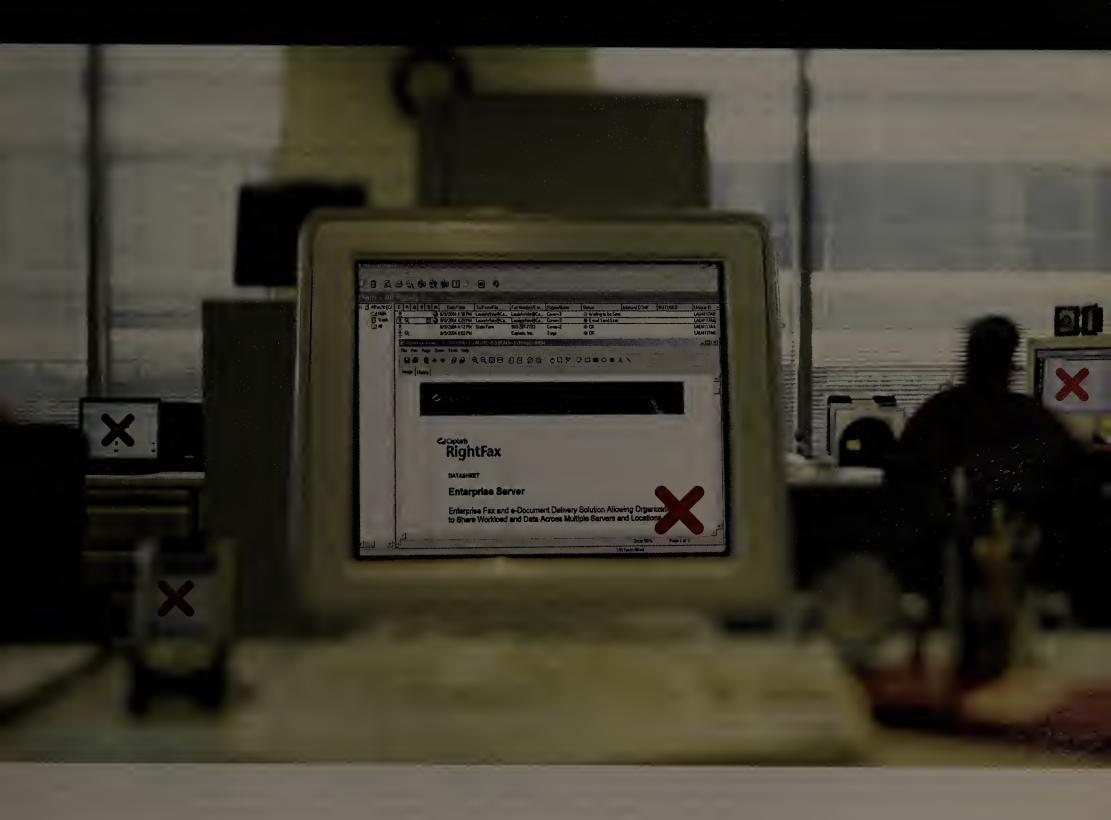
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Captaris
RightFax

Security mgmt. advances

Three new products hitting the market.

BY ELLEN MESSMER

Choices in security event management continue to grow as three SEM vendors debut products that ease central collection and analysis of log and event data generated by firewalls, intrusion-detection systems and other net gear.

ArcSight next month plans to make available an updated version of its Enterprise Security Management software, adding a way to pinpoint suspicious activity of monitored network equipment based on patterns of time and activity of insiders in real time, as well as historical analysis.

Competitor Network Intelligence this week is set to trot out the third version of its SEM prod-

evidence of continuous improvements they've seen for half a decade from the SEM vendors, they say this week's product rollout are par for the course in a market overcrowded with contenders, ripe for consolidation and where products are too expensive.

"At $125,000 to $150,000 just to get started, it's way too high," says Gartner analyst John Pescatore about the underlying problem hindering adoption of SEM products even as they undergo constant improvement. "And there are way too many suppliers and they all sound alike."

Pescatore says Gartner counts ArcSight, Intellitactics, eSecurity, SenSage and Network Intelli-

agers who need to stay on top of what's transpiring across the network.

Radian Group, a mortgage insurance and financial services company in Philadelphia, sees a combined 438 million events related to security generated each month by its firewalls, IDS, switches, routers and servers, says Jack Mackenzie, the company's senior information security engineer.

Radian deployed the Network Intelligence enVision appliance about a year ago at points on its global network in London and New York. "Initially, we simply wanted to be able to collect, report and correlate data," Mackenzie says. "But now we rely on it for alerts, and it's become the central log server for the company."

Radian uses enVision to centralize reporting, analysis and alerts on 500 pieces of equipment. While adapting it to this environment was hard at first, the SEM product, which polls these devices to gain information, has become the critical point to gain information related to security monitoring in the organization, says Mackenzie. Radian says it will upgrade to enVision Version 3 because it wants real-time compliance alerting.

Radian's Mackenzie agrees with Gartner's assertion that SEM is expensive. "It cost us $230,000 and then we put another $150,000 into this," he says.

In the struggle to differentiate their products, SEM vendors keep adding new reporting and analysis capabilities, or vie to show they can process more events per second than the next competitor.

ArcSight, which counts 200 customers, including HealthSouth, Union Bank and government agencies such as the Department of Health and Human Services, says its product collects 30,000 events per second but is capable of receiving 90,000 in a sudden burst.

Network Intelligence, which counts 700 corporate customers, says its SEM equipment can handle a maximum 7,500 events per second. And High Tower, which claims 14 undisclosed customers, says SEM 3210 will process up to 12,000 events per second. ∎

Product sampler

A look at new security event management products.

Vendor	Product	Pricing
ArcSight	Enterprise Security Management 3.5, which adds the ability to pinpoint suspicious behavior based on time elements.	Starts at $50,000
High Tower Software	SEM 3210, which collects and analyzes data from IDS, firewalls, router, switches.	Starts at $60,000
Network Intelligence	enVision 3, which adds regulatory-compliance alerting.	$120,000

uct, enVision, expanding it for use by regulatory-policy compliance managers who want specific reports and alerts related to financial databases. And a new player in SEM, High Tower Software, is shipping the SEM 3210 appliance, purported to not only centrally collect and identity security data from equipment, but also propose strategies for dealing with identified problems, as well.

In each case, the SEM vendors are out to grab attention with features others don't yet have (see graphic): Network Intelligence with monitoring reports and alerts tailored to compliance officers rather than just security managers; ArcSight with its operational time analysis to profile an individual's network usage based on the user's role in the organization and nature of the application; and High Tower, with a new SEM product with remediation advice.

While analysts appreciate the

gence among the more prominent pure-play SEM vendors, adding that Cisco, Check Point, Symantec and Internet Security Systems also compete in the market.

Primarily because of its expense, adoption of SEM — alternately known as security information management or security information and event management — has only slowly found an audience, mainly in mid- to large-sized companies.

Larger companies have typically had the greatest need for a central reporting point for analyzing and prioritizing the huge amount of syslog, authentication and attack data generated each day by sensors, firewalls, antivirus, as well as switches, routers and servers. Today, most SEM gear also is giving them real-time alerts and some correlating events to better identify the nature of a specific threat.

Companies adopting SEM say it's invaluable for security man-

Conference focuses on open source in government

BY JENNIFER MEARS

IT executives from a dozen states will meet in Oregon this week to take a close look at open source software and how a collaborative approach to application development could help them cut costs and speed software development.

Collaboration is becoming increasingly important as government organizations now comfortable with Linux consider relying on open source for business applications. The issue will be among several areas covered during the first Government Open Source Conference in Portland this week.

The event, sponsored by Oregon State University's Open Source Lab, also will include discussion about the benefits and challenges of migrating from legacy applications to open source. In addition, attendees will hear firsthand from government officials already bringing in open source.

"Most of these agencies are already using Linux Now they're trying to figure out, 'OK, we've got the low-hanging fruit. What about the stuff we're spending a lot of money on: custom solutions?'," says Scott Kveton, associate director of the Oregon State University Open Source Lab.

That's where an open source-based collaboration approach can help, analysts say.

"Particularly in state and local governments, you have a situation where there are a lot of things that they do that are very similar state to state," says Michael Goulde, a senior analyst at Forrester Research. "There are all sorts of things that require software, and

Voting for Linux

Like corporate buyers, government agencies are looking at Linux and open source applications to cut costs and are helping to drive the fast-growing market:

• The overall Linux marketplace — including desktops, servers and packaged software running on Linux — is expected to grow from $14 billion today to more than $35 billion in 2008.

• The market for software running on Linux is expected to more than triple from less than $4 billion today to $14 billion by 2008.

SOURCE: IDC

rather than purchasing individual packages or developing individual applications it just makes a whole lot of sense for governmental entities to collaborate, to create communities, and jointly develop and share software."

Universities and colleges have been collaborating on software development within organizations, such as the Sakai Project, launched by the University of Michigan and Indiana University in January 2004 to develop open source collaboration and education-focused software.

"The idea is that they can build applications and defray the cost and risk across several different organizations," Kveton says. "State government saw this and said, 'Jeez, we could do the same thing but with state, local and federal government.'"

The hope is that the Government Open Source Conference will spur cooperation between government IT executives, Kveton says. "We'll be breaking out into agency groups and hopefully will define some projects," he adds.

About 115 IT managers from 12 states, including California, Idaho, Montana, South Carolina and Virginia are expected to attend.

The conference was initiated in May as a way to bring together government leaders in Oregon, but it quickly expanded, Kveton says. Across the country, government agencies are beginning to look at ways they can work together to develop open source applications.

Andy Stein, director of IT in the city of Newport News, Va., for example,

Microsoft bellies up with security software

BY JOHN FONTANA

Microsoft last week unveiled its long-anticipated anti-virus, anti-spyware software designed for corporate networks. This marks its first direct and significant shot at partners such as McAfee and Symantec that develop similar software.

Microsoft Client Protection, which is set to ship next year, is designed to protect desktops, laptops and basic Windows file servers from viruses, spyware and other malware, including root kits. The software is expected to go into beta by year-end.

Experts say depending on pricing, which was not announced, the software could appeal to pure Microsoft shops but not larger users with heterogeneous environments.

Microsoft has promised this security software for two years, and last week's announcement shows how competitive the company is getting in the security market, analysts say.

"It's nice to see this giant rock thrown into the anti-viral pond to make those guys innovate and move faster than they have been," says John Pescatore, an analyst with Gartner. "But right now, Symantec is the only one showing that."

In August, Symantec purchased Sygate, which provides technology to ensure devices comply with security policies before they access the network. Microsoft is adding similar technology to Windows called Network Access Protection, but it is not expected to ship until 2007.

Last month, Symantec purchased Whole Security, which provides anti-phishing technology. Microsoft plans to add anti-phishing technology to Internet Explorer 7, also due in 2007. Micro-soft has added anti-phishing features to its MSN online service.

Microsoft's Client Protection is a combination of software it acquired from anti-virus vendor GeCAD in June 2003 and from the purchase last December of Giant Company Software, which develops anti-spyware software.

Client Protection comprises agents that run on each client and a centralized server management console tied into Active Directory and it's Group Policy technology.

Microsoft said last week it will build Antigen anti-virus and anti-spam security software for messaging and collaboration servers.

First up is Microsoft Antigen for Exchange, which is slated to go into beta in the first half of 2006.

Client Protection supports Windows XP Service Pack 2 and Win 2000 Service Pack 4 on the client side. On the server, it supports Win 2003 Service Pack 1 and above and Win 2000 Service Pack 4. ∎

Malware plugs

For the past few years, Microsoft has been acquiring technology to make a push in the security software market.

Product/service	Where it came from	What it is	Availability
Client Protection	Combination of GeCAD anti-virus (acquired July 2003) and Giant anti-spyware (acquired Dec. 2004)	Anti-virus, anti-spyware for desktops, laptops and Windows file servers	2006
Antigen	Part of Feb. 2005 acquisition of Sybari	First release will focus on Exchange	First half 2006
OneCare	Bundle of Microsoft and technology from acquisition	Consumer-subscription PC health service	In beta testing
Frontbridge	Acquired July 2005	Hosted service for securing and archiving e-mail	Now

NetConf

A widely adopted standard programming interface, such as that defined by NetConf, would make it simpler for vendors that specialize in configuration management to create broadly applicable tools, says Sherrie Woodring, CEO of configuration management vendor Emprisa. "A lot of our R&D costs go toward learning the multiple techniques to get information out of a device and incorporating that into a product."

Today, management software vendors painstakingly learn the format and protocols that equipment makers use to store and access configuration data on each piece of gear. They then write software that can gather and manipulate this data via a consistent user interface.

When a vendor updates software on, say, a router, that might include a change to the format to which configuration management software vendors have to adapt — and that takes time that can delay network upgrades, says Paul Froutan, vice president of product engineering at RackSpace in San Antonio. The company uses Voyence's software.

"Everything today is being done in a custom manner," Froutan says. "Generally, when you have a new device or there is a new feature added, you want to get at it immediately. If it's not updated quickly

The art of configuration

Shortcomings in current ways of configuring network devices has the IETF working to standardize a network configuration protocol known as NetConf.

Challenge	Strategy
Configuration errors can cause network security holes and performance problems.	Reducing the need for manual configuration via standard programmatic tools can reduce errors.
Automated network management requires highly skilled engineers and cooperation with vendors to tap proprietary tools.	NetConf defines a standard interface for applications that will make it possible for fewer, less trained staff to create configuration tools.
Localized password authentication available via SNMP doesn't scale for large numbers of devices.	NetConf interfaces with authentication servers such as RADIUS to support large networks.
SNMP formats of configuration data are not concise.	NetConf creates an interface that gleans the information succinctly.
Current methods of gathering configuration data must deal with many vendor-specific command-line interfaces, increasing complexity.	NetConf supports XML which already has features to manipulate text, as well as encoded data.

enough, that's when you stop supporting that product or standard."

Being able to gather configuration data quickly has greater implications the larger the network. Jim Keck, vice president of enterprise systems services in Citigroup's technology infrastructure group in New York, says if NetConf takes off he imagines it will simplify configuration of the more than 30,000 switches and routers in Citigroup's network.

"Normalizing this process so I can simply ask, 'What's the [operating system]?' would have a major impact," he says, referring to the various operating system iterations running on his Cisco network gear and other hardware.

By creating a more widely understood platform, businesses would need fewer device-specific experts. "Instead of having to know multiple protocols and tools, anyone could take this information and apply it to troubleshooting or root-cause analysis,

speeding mean time to repair," Nudler says.

Most vendors supply their own configuration tools, but if they fit to a standard it would be easier to create individual tools that control more devices, says Eliot Lear, a consulting engineer at Cisco who co-wrote one of the NetConf proposals. "It's likely over time you'll see more and more accessibility to more and more devices from the same tool," he says.

That appeals to Citigroup's Keck. "Fewer tools helps our support team stay leaner and more responsive," he says.

Some vendors already are using configuration tools that follow the NetConf model of including XML support. Cisco, for example, has its Enhanced Device Interface (ED-I) and Juniper has Junos Script to support programmatic interfaces to configuration. Both vendors are active in writing NetConf.

Even if the IETF endorses NetConf quickly, that doesn't mean it will appear right away in lots of equipment or configuration tools.

Juniper will likely standardize on NetConf when it wins IETF approval, says Craig Bardenheuer, a director of product management. "A standard makes it easier for our customers to write tools to deploy our gear quickly and efficiently," he says.

Similarly, Cisco will likely adopt it, but cautiously, Lear says. Cisco supports CLI and ED-I, and supporting NetConf as well might create compatibility problems. "The only thing worse than two solutions to solve the same problem is three solutions to solve the same problem," he says.

Even after equipment vendors start using NetConf, they will still add their own extras as a way to stand out from the competition, so totally unified configuration platforms may be beyond reach, Lear says.

As for the makers of configuration management software, while they find NetConf attractive their use of it will depend on customers buying NetConf-capable equipment, says David Schrodel, CTO of configuration management vendor Voyence. "If we could get 80% to 90% of the functionality out of NetConf that we get out of investing our R&D dollars, it would be a huge step forward. But we'd have to see [NetConf-enabled gear] in customer networks before we consider adoption," he says.■

Partnership

centric services model.

Earlier this year, IBM began to test a set of productivity tools built using OpenOffice technology that run as network-centric services accessed by its Workplace client. A public beta is planned later this year.

"Our approach is one of componentizing OpenOffice technologies and making them available services in the context of such things as e-mail, document creation and collaboration," says an IBM official who requested anonymity because of the company's partnership arrangement with Google. "And then to provide services around them such as document management, records management, team workspaces, e-mail services with the focus of building the Office suite for the networked world. Fat desktop suites are looking very tired today."

Microsoft knows that just by looking at its flagging Office revenue numbers over the past few years. Revenue was up just 3% for fiscal year 2005, which ended June 31, over fiscal year 2004 for the Information Worker division that includes Office.

At its recent Professional Developers Conference (PDC), Microsoft set out to address that fact by

demonstrating innovations in Office 12, due to ship next year. The upgrade takes productivity services to the network, including something called Excel Services, the ability to view and interact with spreadsheets in a browser.

"The assumption is that somebody else other than Microsoft is going to accelerate the Web 2.0 vision where you can do the next generation of productivity with browser-based apps that used to require clunky fat clients," says Peter O'Kelly, an analyst with Burton Group. "My rebuttal is, did you go to the PDC? Did you see Excel Services where you can do no-client-install-required and all you need is an AJAX-capable browser client?'"

"Microsoft isn't doing this with smoke and mirrors. They have a server that does Excel rendering, including highly interactive tasks like pivot tables; and they have a similar server for InfoPath forms," O'Kelly says. "They are taking productivity applications to the Web."

He says while Microsoft still must deliver, he grows tired of the hype around Google when it disregards existing projects in the industry.

"Google could announce that it is going into toothpaste manufacturing and it would get front-page coverage because they are that hot," he says.■

Bechtel
continued from page 1

Wettling is not only advertising Bechtel's ongoing upgrade, he's had baseball hats made up with "IPv6 Ready" logos to help promote the project within the company. While Wettling says getting Bechtel's upper management to approve the IPv6 migration has been more about education than arm twisting, few companies will talk of concrete plans regarding the protocol. For example, aerospace giant Boeing, which like Bechtel is a member of the North American IPv6 Business Council — conceived to foster the upgraded protocol's adoption among U.S. businesses — declined to discuss its IPv6 plans.

IPv6 is far from a top priority among network executives. Despite its purported benefits — expanded address space, and improved security and information routing — the cost of upgrading hardware, software and applications, not to mention training, has

Fred Wettling, manager of IT strategy and standards at Bechtel, says selling upper management on the idea of IPv6 was a matter of education.

kept the transition on the back burner at most organizations. Even IT executives inside the federal government, which has imposed a 2008 deadline for moving to IPv6, bemoan having to shuffle technology priorities to afford the transition.

"Right now our standard advice for typical enterprise clients is 'Don't do it,'" says David Passmore, research director with Burton Group, about IPv6. Despite Bechtel's good business case for going to IPv6, Burton Group maintains there are no technical advantages to upgrading at this point.

Crazy is as crazy does

"The only people we've run across who might have real technical justification for going to v6 are parts of [the Department of Defense] for automated battlefields. . . . To anybody else I'd say 'You're crazy,'" he says.

At Bechtel, however, the business case for moving to IPv6 was strong enough to sell executives on the idea.

The engineering, construction and project management company lays claim to some impressive and varied projects, such as building the Hoover Dam, the Hong Kong International Airport and the original Sprint PCS network.

Three business units within Bechtel serve customers that view IPv6 as strategic, Wettling says. A unit that focuses on the U.S. government with its 2008 deadline — and with the Defense Department moving even more aggressively to IPv6 — is a key one. A division devoted to wireless carriers that look to Bechtel to build out their networks is another. Especially because IPv6 is required by the IP Multimedia Subsystem, a standard designed to deliver voice, data and video to mobile devices, toward which many wireless service providers are moving. The third unit is in control systems — sensors that detect light, temperature or humidity, for example, which are involved in keeping a building running. These are moving from proprietary networks to IP and could benefit from IPv6's increased address space, Wettling says.

What's more, many of Bechtel's customers are in areas such as China that are more aggressively adopting IPv6 than U.S. businesses, he says.

These drivers led to the decision that Bechtel needs to move forward with IPv6, with a target date of 2008 for completing the transition (see graphic). Although Wettling has been aware of the protocol since he learned about it at an Interop conference session in 1997, this year he managed to get the company's senior executives signed on, and a plan is in place.

Getting to the point of corporate acceptance was really about education, Wettling says. For the last few years, he's been in conversations with CTOs and CIOs of the company's business units about the importance of transitioning to IPv6 and making it a technical competence of the company. "Providing technology trend information relevant to our work allowed the business leaders to make informed decisions about the importance of IPv6 to their customers," Wettling says.

Informing business leaders about technology is now an official part of his responsibilities; last month he was named a Bechtel Fellow, one of only 18 out of 40,000 employees, focusing initially on networking and security.

In addition to making the business case that some of Bechtel's key customers, partners and competitors are transitioning to IPv6, Wettling needed to show the company how this upgrade would be internally beneficial.

Specifically for Bechtel, IPv6's promised end-to-end security and heightened mobility features will play a large part in keeping the company's many offices and field workers connected, says Alan Materna, Bechtel's IPv6 project manager.

Wettling spread the IPv6 message internally during "tech talks" with members of the company's

IPv6 by 2008

Bechtel will add IPv6 to its network in a dual-stack configuration to minimize early impact.

First half 2006	Finish	Front-end engineering (design, lab, security, quality assurance environment, procurement and developer guidelines).
Second quarter 2006	Start	Limited production dual-stack pilots using tunneling for WAN transport.
Second quarter 2006	Start	Dual-stack WAN transport.
Fourth quarter 2006	Start	IPv6 turned on by default.
Second half 2006	Start	Global expansion of deployment based on product maturity.
First quarter 2007	Finish	Major high-use/critical applications go through quality assurance to certify dual-stack compliance.
Second half 2008	Finish	Full enterprise dual-stack deployment in network and applications.
Second half 2008	Start	Remove legacy IPv4 networks.

SOURCE: BECHTEL

IT department. Wettling wasn't faced with much opposition, he says, but issues have arisen regarding prioritizing resources. "The resistance has to do with where to fit [the upgrade] into the list of priorities," he says. "There's no dispute within Bechtel that we have to do this, it was just a matter of when."

A matter of course

Working in Wettling's favor is that much of the transition to IPv6 will be done as a matter of course. "There are so many aspects to this transition that are just a part of what we do with the regular network; router upgrades," he says. So as the company does routine upgrades of its routers, operating systems, applications, PCs and servers, IPv6 will be automatically a part of that as vendors include the new protocol in their offerings — Wettling says many, including Cisco and Microsoft, already do so.

"For each vendor we're taking a look at their products to see what [aspects of IPv6] they support now and what they'll support in the next release. It's just part of planning." Because much of the transition to IPv6 will come with regular product upgrades, the dedicated costs for the project consist of an undisclosed amount for project management and upfront implementation planning and architecture, Wettling says.

Enterprise applications are a bit trickier, however. "It's still a challenge for us to design and implement or acquire applications that are relatively insensitive to underlying infrastructure changes," Wettling says. He's not too concerned, however. "We're not taking anything away, we're just adding v6," he says.

Ensuring Bechtel's key applications run in this new environment is up to Bechtel's software quality assurance department, which will test all applications modified to work with IPv6, says manager Steve Bettinger. "We have to physically go in and alter applications to go to v6," he says. "Most of our testing will be to verify [they run] on the migrated infrastructure."

Currently there are about 1,600 applications running at Bechtel; the company plans to modify and test what it considers its 50 most strategic programs by the end of 2006. "Hopefully when we get to that point we'll be able to really understand what it takes to get [the rest of the] applications tweaked" for IPv6, he says.

Although moving to IPv6 will take time and coordinated effort, Wettling says in the grand scheme of things it's not a major ordeal. "We've gone through network protocol conversions over and over again — this is just another one," he says. "Organizations like ours that have solid change management in place are going to have a better transition to v6." ■

WebSphere.

IBM

Cisco Press
continued from page 1

Sales of *Routing TCP/IP* pale in comparison to *Harry Potter and the Half-Blood Prince,* which sold 6.4 million copies in its first two weeks on bookshelves this summer. But in the niche of network books, the release of a new edition of *Routing TCP/IP* is just as significant.

The book has sold more than 55,000 copies — 43,000 in the U.S. and 12,000 overseas — since its release in 1998. It is a must-read for network engineers pursing Cisco certifications. Many keep a dog-eared copy of the 1,000-page tome in their offices for troubleshooting IP routing problems.

The only Cisco Press book that

> **"People will come up to me with copies of the book and want me to autograph it."**
>
> *Jeff Doyle, author of* Routing TCP/IP

has sold more copies is a self-study test preparation text for the Cisco Certified Network Associate (CCNA) exam.

"This is far and away Cisco Press' best-selling first edition, non-certification book," says Kourtnaye Sturgeon, director of marketing for Cisco Press. Sturgeon says the nearest comparable title sold 24,000 copies.

"For a computer book, selling 45,000 volumes domestically is quite respectable," says Jim Milliot, director of business and news at *Publishers Weekly,* which tracks book sales. Milliot adds that a book such as *Routing TCP/IP* can be "very profitable" given its $80 price.

For Cisco Press, publishing a second edition of *Routing TCP/IP,*Volume 1 is a big deal, and it is more than two years in

the making.

Cisco Press is an alliance between Cisco and Pearson Technology Group, which also publishes IT books under the imprints of Addison-Wesley Professional, Peachpit, Prentice Hall PTR, Que, Sams and BradyGames. Cisco Press is the official publisher of training and self-study materials for Cisco certifications, but it also offers general-purpose books about network technology and business strategies.

Cisco Press publishes 50 to 55 books per year, and it has a back-list of 225 titles that it offers. Cisco and Cisco Press agree on the titles that will be published, and Cisco engineers review the books before they are issued. Cisco gives Cisco Press editors and authors early access to in-

formation about new products and changes to certification exams so the alliance's books are timely and accurate.

Cisco and Pearson Technology Group share in Cisco Press' revenue. These figures are not publicly available.

Milliot says Cisco Press is a small player in the computer publishing industry, where most of its competitors focus on consumer-oriented books.

"There certainly is room for niches, especially ones that trade on a brand name," Milliot says. "Cisco is a well-established brand name."

Books by Cisco Press, especially *Routing TCP/IP,* have a loyal following among network engineers.

"That book holds a threefold significance to Cisco in terms of helping out our customers because of its accuracy and depth," says Anthony Wolfenden, director of operations in engineering for Cisco. "It's used as a reference book by college kids going through our Networking Academy. It's a complete desk reference for anyone who works with Cisco routers. And it's a reference for anyone who wants to achieve or maintain a [Cisco Certified

Internetworking Expert]. It really broadly strikes at one of the core elements of Cisco: What is IP routing and how to do it."

On Amazon.com's Web site, reviewers called *Routing TCP/IP* "masterful," "indispensable" and "a great routing reference book." One five-star review called the book "an essential desk reference for anyone pursuing a career as a senior-level routing engineer."

Thanks to the enthusiastic response, Doyle is a minor celebrity and popular presence on the conference speaking circuit.

"I travel all over the world doing seminars and giving speeches, and I am completely amazed that in so many parts of the world people will come up to me with copies of the book and want me to autograph it," Doyle says.

It took a year for Doyle to write *Routing TCP/IP,* which was his first book. The book proved so popular that he came out with a second volume in 2001.

"It was good timing and luck on my part to take that fundamental topic of core routing and create a book around it," says Doyle, who at the time worked as a senior network systems consultant with International Network Services.

"I had no idea it would be such a best seller," he says. "I was told that the shelf life of a technical book is two or three years. Here it is seven years later, and it's still going strong. I still get a very nice royalty check every month."

Despite the popularity of *Routing TCP/IP,* producing a second edition was not a sure thing for Cisco Press. That's because Doyle now works for Cisco's archrival Juniper Networks, where he serves as senior network architect.
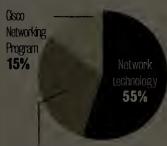
"Cisco Press wanted me to do the book all along, but Cisco had a lot of concerns. They wanted to make sure I didn't mention Juniper anywhere in the book," Doyle says.

When Doyle wrote the first edition of *Routing TCP/IP,* he says Cisco provided lots of technical details that hadn't been published before.

"With the first book, a lot of doors were opened to me in Cisco engineering. Cisco shared a lot of information because at the time I worked for a systems integrator," he says. "When I joined Juniper, a lot of those doors were closed."
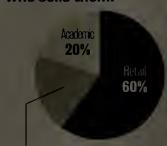
Cisco Press at a glance

Types of books

Cisco Networking Program **15%**

Network technology **55%**

Certification and self study **30%**

TOTAL: 225 ACTIVE TITLES

Who reads them?

Typical reader is:
- 35 to 44 years old.
- 96% are male.
- Owns six to 10 Cisco Press books.

Who sells them?

Academic **20%**

Retail **60%**

Corporate/Government/VAR **20%**

Doyle brought on a co-author — Jennifer DeHaven Carroll — for the second edition of the book to alleviate Cisco's concerns about sharing information with a Juniper employee.

"She is an independent consultant, but she has good relationships with Cisco," Doyle says. "I wrote all of the technical pieces and coordinated the overall project, and Jennie did the rewrites on the IOS-specific pieces of the chapters."

The new edition of *Routing TCP/IP* emphasizes IPv6, a long-anticipated upgrade to the Internet's main protocol, IPv4. References to older technologies such as FDDI and token ring were eliminated. Protocol descriptions were updated to include the latest capabilities and configuration options.

"I started with a new chapter that introduces IPv6," Doyle says. "For each of the protocols I describe in the chapters, I show configurations for IPv4 and IPv6. . . . I'm a big IPv6 advocate. In this book, it's treated as a standard part of the Internet Protocol."

Doyle spent six months writing the new edition of his latest

book, and he's hoping it will be another bestseller. He's already got the royalty payments earmarked for spending.

"I have four kids: one in college, and one that's going to be in college next fall," says the 52-year-old author. "The royalty checks will probably all go to college tuition."
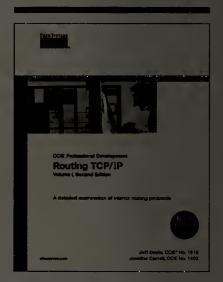
Cisco Press has begun its marketing push for the second edition. Cisco Press announced the book's release at Interop in May in Las Vegas and displayed it at the Cisco User's Conference in June in Las Vegas. Web sites such as Amazon.com and Powells.com have been taking pre-orders since July.

Despite its importance to Cisco Press, *Routing TCP/IP* is a minor blip to the high-volume publishing industry.

With an initial print run of 6,000 copies, the second edition hasn't garnered the attention of the top brass at RR Donnelly & Son's printing plant in Crawfordsville, Ind., where Cisco Press books are printed and bound.

"We published 2.5 million copies of *Harry Potter and the Half-Blood Prince* this summer," says John Prasser, senior customer service representative at RR Donnelly & Sons, who says 2005 will be the plant's best year ever. Prasser wasn't familiar with *Routing TCP/IP.*

"Harry Potter and *The Purpose Driven Life* are our biggest jobs," Prasser says. ■

nww.com

Chapter 1

Find out why *Routing TCP/IP* is so popular by heading online to read the first chapter of book.
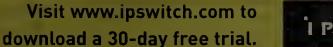
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3Com adds anti-phishing to IPS box

BY PHIL HOCHMUTH

3Com this week is expected to add anti-phishing capabilities to its TippingPoint IPS family that could help organizations lower the risk of employees being tricked into handing over sensitive personal or corporate data to fraudulent Web sites.

3Com says the new features can block phishing at every point of attack, from stopping e-mails that contain links to phishing sites to inspecting Web sites for fraudulent content, as well as protecting owners of legitimate Web sites from being hijacked by phishing attacks.

The new capabilities are available to current TippingPoint customers as part of the company's regular Digital Vaccine service, which updates the devices with new virus definitions, signatures and IPS features.

Phishing attack campaigns involve two key phases: the hijacking or infiltration of a legitimate Web site, and the sending of phishing e-mails

"Since [the TippingPoint IPS] sits on the network, it can act as a blocking agent for all aspects," of a phishing attack, says Tod Beardsley, lead counter-fraud engineer for TippingPoint.

The TippingPoint IPS device can protect e-commerce and other Web sites that find themselves as victims on the beginning phase of a phishing scam. 3Com says the IPS can block attackers from taking advantage of weaknesses in Web server code that allow attackers to mimic Web sites or redirect traffic from legitimate Web servers to phishing sites. Vulnerabilities in HTML, JavaScript, Microsoft Active Server Pages and other Web page code are common points of attack for phishers, 3Com says.

The TippingPoint box, programmed with such known vulnerabilities, can recognize and block such hack attempts.

This back-end anti-phishing feature is running at a large Web server hosting outfit based in Houston.

A customer's story

An average of around 9,000 phishing attacks per hour are being blocked on the Web hosting firm's network since the anti-phishing scanning was activated on the company's TippingPoint gear, according to David Wartell, network administrator for Everyone's Internet.

"Most customers are good at keeping their servers secure, but sometimes machines get compromised," which can leave them open to phishing scam hijacks, Wartell says.

All traffic entering the server cages at Everyone's Internet now goes through TippingPoint devices, which amounts to around 1.2% of all U.S. Internet traffic, according to Wartell. He adds that network throughput is not affected by running all traffic through the TippingPoint devices.

To stop attacks at the most common source — e-mails with links to phishing sites — the TippingPoint device can scan and filter e-mails based on commonly known phishing attack techniques. According to 3Com, stopping such e-mails from entering user in-boxes reduces the risk of employees being defrauded.

To also block users from visiting fraudulent Web sites, the TippingPoint gear can stop a connection to a phishing site even after someone clicks on a link to the site, 3Com says.

The IPS device scans for known exploits in Microsoft Internet Explorer and Outlook, which are used to fool PC users.

The TippingPoint product also scans the target Web site to look for known malicious phishing code or other signs of a fake Web site.

3Com's TippingPoint IPS products range from $5,000 for a 15M bit/sec device to a $170,000 for a 5G bit/sec box. The Digital Vaccine service is part of an annual service and support fee that costs around 18% to 20% of the cost of the hardware. ■

Netting phish attacks

New anti-phishing capabilities in TippingPoint's iPS gear let the service stop attacks either at end-user PCs or at hijacked Web sites.

1 A TippingPoint IPS in a company can stop e-mails with embedded phishing links, as well as exploits in desktop software used by phishers.

2 The device also can block intrusions and hacks on Web sites phishers use to hijack a site.

Gordano beefs up mail server security

BY JOHN FONTANA

Messaging server vendor Gordano last week released enhancements for its mail server designed to help stem the flood of spam and provide an extra dose of anti-virus protection.

The upgrades, which are for its Gordano Messaging Server (GMS) 11, provide an outbound anti-virus capability that checks e-mail being forwarded from the server or exchanged through collaboration. For example, if a user schedules a meeting and attaches a spreadsheet to the meeting request, the file will be scanned before being exchanged with another user.

Gordano also is adding support for the Sender Policy Framework (SPF), which uses the DNS to validate that e-mail is indeed coming from the domain it claims to be coming from. SPF is one of a handful of methods of validating the e-mail sender, including DomainKeys, DomainKeys Identified Mail and SenderID.

"They are covering all the bases in terms of any holes in the dam, anything that can happen as the result of malicious e-mail, says Chris Williamson, president and CEO of Market Web Solutions, a hosted e-mail provider. "Covering all those bases from a system point of view is very beneficial to us."
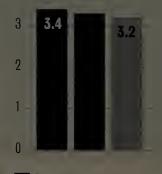
Williamson says reducing his infrastructure workload is key. "It helps reduce our workload considerably when we don't have to deal with messages that contain malicious content."

Gordano's anti-virus add-on integrates with the current anti-virus engine built into its server, which company officials say limits the performance hit on scanning mail leaving the server. The add-on scans e-mail sent via the Post Office Protocol and IMAP, and scans Web-based mail. The soft-ware scans content, headers and attachments on every e-mail.

Embracing SPF

Gordano also is adding SPF support even as the usefulness of the technology is being questioned.

While SPF was initially greeted with promise for thwarting spammers, mail-filtering company MX Logic recently released its findings on e-mail security that noted that SPF and Sender ID authentication protocols aren't widely used and that spam-sending domains continue to represent their biggest adopters.

Gordano officials say SPF support is just another security option.

"SPF is not completely foolproof but nothing is," says John Stanners, managing director for Gordano. "People with the knowledge can spoof where the IP addresses mail is coming from — in which case all authentica-tion bets are off. But SPF will help with a lot of the current spam that is around." Stanners says this is the case because a lot of spam comes through free mail services such as Hotmail.

Gordano competes with Stalker, Rockliffe, Mirapoint, Scalix, IFSwitch and Sendmail. GMS also competes with Microsoft Exchange and IBM/Lotus Domino, especially with customers migrating away from those platforms

GMS is priced at $28 per user, which includes GMS Mail, GMS WebMail, GMS Collaboration for sharing of calendars, contacts, tasks and notes in Outlook, and GMS Web Organizer for Web-based sharing of calendars, contacts, tasks and notes. ■

Spam stats

Spam continues its assault on the usefulness of e-mail, growing more than 65% in volume since January 2002, according to online message management vendor Postini.

Monthly volume of spam:
(in billions)

■ Four months ago
■ Two months ago
■ Past 30 days: (represents 20T bytes of data)

Start-up touts attack-blocking appliance

BY TIM GREENE

Start-up Imperva has announced an attack-blocking appliance that is designed to help businesses secure their networks and meet government privacy requirements.

Secure Sphere Gateway is installed between Web servers and the network and analyzes Web application and database traffic. Based on this analysis, it sets a baseline for normal traffic, and flags traffic that falls outside normal that might indicate an attack.

The company is announcing a high-end hardware platform called G16 that operates at 2G bit/sec, as well as a new software platform that inspects database traffic. The Database Security software supports Oracle, MS-SQL, Sybase and DB2 databases.

Other vendors' equipment does some of what Imperva's does, but none is exactly comparable, says Andrew Jaquith, an analyst with the Yankee Group. For instance, Application Security, Guardium and IPLocks focus on protecting databases, he says, while Teros, Breach Security and Protegrity aim to protect Web applications.

SecureSphere differs in that it monitors and protects at the Web browser, Web server, application server and database level. "It's a vertical integration approach to defending applications by looking at them as a stack of processes and protecting the different layers," Jaquith says.

While the device teaches itself to look for abnormal requests, customers must set policies for what to do about suspicious traffic. The device can block the traffic, do so for a set period, e-mail an administrator or log it and pass it through.

The gateway also keeps track of which users access what data so if a regulatory agency needs a record of how well particular data was protected, customers will have a log to draw from.

Imperva customer FFF Enterprises, a $500 million pharmaceutical distributor in Temecula, Calif., protects two of its sensitive applications and their underlying databases with a SecureSphere gateway, says Bob Coates, vice president of technology for FFF.

"We looked at it in learn mode for six months," Coates says. That gave FFF the chance to evaluate how well it performed after it established a baseline for normal traffic. It can identify, for example, if one user who has not accessed a database before attempts to do so, Coates says.

In one case the device e-mailed Coates that an internal user was trying to access a database of private customer data. It turned out to be an application developer who needed the data, but Coates says it demonstrated how effective the device could be.

He has not had to demonstrate to regulators that FFF protects its databases, but says the device will meet the need. "I believe this will position us quite well with [Health Insurance Portability and Accountability Act]," he says.

The SecureSphere hardware acts as a Layer 2 bridge, so has no IP address to be discovered by attackers. It also requires no alterations to the databases it protects, according to Imperva.

SecureSphere G16 supports as many as 100 servers and pricing starts at $120,000. ∎

Profile: Imperva

Location:	Foster City, Calif., and Ramat Gan, Israel
Founded:	2002
Product:	Secure Sphere Gateway
CEO:	Shlomo Kramer, co-founder of Check Point Software
Employees:	50
Funding:	$17 million from Accel Partners, US Venture Partners and VenRock Associates
Competitors:	IPLocks, Application Security, Guardium, F5, NetContinuum, Teros

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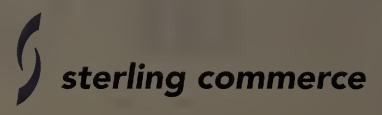
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Short Takes

■ **Lockdown Networks** announced the Lockdown Enforcer, an appliance for network access control that can enforce security policies to ensure up-to-date anti-virus and spyware protections are in use on desktops before allowing access to LANs. The Enforcer, which has options for both agent-based or agentless scanning of machines, supports 802.1x authentications, Windows-based and Web-based authentication. Pricing for the Enforcer starts at $20,000.

■ **Symantec** last week said it would buy security compliance software vendor **BindView** for $209 million in cash. The two companies provide software to help businesses and government organizations comply with regulatory requirements such as the Sarbanes-Oxley Act and the Federal Information Security Management Act in the U.S., and the Basel II financial regulations in Europe. Symantec's security systems use software agents to ensure compliance with security policies, while BindView's approach is agentless, Symantec said, adding that the two approaches are complementary. The agent-based approach is more suited to complex, mixed IT environments, while the agentless model requires less staff to manage and is suited to companies with similar systems spread across many sites, Symantec said.

■ **McAfee** announced **ePolicy Orchestrator 3.6,** an updated version of its central management console for deployment and report generation for McAfee's anti-virus, anti-spyware and other security products. The latest version of ePO adds support for McAfee's host intrusion-detection software, Microsoft's clustering services plus security alerts issued by McAfee's Avert research labs concerning newly detected threats. The cost for ePO is $14.62 per user for 1,000 to 2,000 users.

MessageLabs expands reach

The e-mail security vendor takes its protective services to the Web.

BY CARA GARRETSON

E-mail security vendor MessageLabs is extending its managed services to the Web with its announcement last week of three services that protect companies from threats on the Web.

MessageLabs' Web Protect comprises antivirus, anti-spyware and Web filtering services designed to keep threats from entering a corporate network and to control employees' Web access, says Brian Czarny, vice president of product management with MessageLabs. The company, which has played in the messaging anti-virus and anti-spam space for years, says increased threats originate from intended and unintended Web downloads.

"What you're starting to see now is this

> ### Keeping an eye on spyware
> The installed base of corporate anti-spyware will grow from 16 million users in 2005 to nearly 541 million users in 2009, an average annual growth rate of 146%.

convergence — threats across e-mail, the Web, instant messaging — so we're really focused on taking the intellectual property and knowledge we've developed around e-mail [security] and applying that to the Web," Czarny says, adding the company plans to release services for securing IM communications within the next year.

Of the three areas that the new Web services cover — anti-virus, anti-spyware and Web filtering — MessageLabs says it's gotten the most interest from customers in fighting spyware.

At Perkins Eastman Architects, which has more than 500 employees in seven offices throughout the country, spyware is a major headache for the IT department, says Michael Gonda, senior systems administrator with the architecture firm. "There was a time when 80% of the phone calls [to the help desk] were directly related to spyware, even though the users didn't know it," he says. The company is beta testing MessageLabs' new suite.

Protecting customers

The anti-virus and anti-spyware services protect customers by having their Web traffic flow through MessageLabs' servers so downloads can be cleansed of viruses and other malware using heuristics and scanning techniques, says Martin Brown, group product manager of Web services with MessageLabs.

With the Web filtering service, a customer's traffic first flows through MessageLabs' servers so that predefined corporate policies, such as not allowing employees to access auction sites during business hours, can be applied and

Extreme launches managed service

BY PHIL HOCHMUTH

Extreme Networks this week is expected to announce network and device management services intended to give customers a clearer picture of what they have in terms of network devices and how well that equipment is performing. Application-specific management services for VoIP, security and other areas also are options in the services offering.

Extreme's Premier Services Program (PSP) mixes in network device management and monitoring, asset management, infrastructure planning and network performance evaluation.

The Foundation Services features give customers access to Extreme engineers and support professionals through weekly calls with Extreme staff, the delivery of updated reports on network performance and availability, and quarterly on-site visits from Extreme engineers with a customer's network team. Customers also can choose an option in which Extreme support staff monitor the performance of customer networks and send alerts to customers during certain events, such as

equipment failures, network attacks or other issues. Users also get access to a portal interface to view their own network performance through Extreme's hosted software.

Applications, traffic types and other utilization statistics also can be monitored through the PSP service. The monitoring service lets users know what applications are most and least used on a network, as well as what kinds of software are consuming the most network bandwidth.

Another area of the service provides documentation of physical network assets, including maps of what devices are interconnected, maps of virtual LAN topologies, network addressing schemes and redundancy paths.

By tying users more closely to support specialists and product engineers, Extreme says the service offerings give customers another layer of assurance for network availability and performance beyond standard point-product support. While some Extreme resellers offer managed services, Extreme says PSP will not

compete or crowd out such services, since channel partners can offer PSP alongside the products they sell.

One longtime Extreme user welcomes the new service focus a company that in the past was mostly focused on cranking out new products.

"As an Extreme customer, I would like to see more service offerings," says Bill Senter, head of network services at Texas Christian University in Fort Worth. TCU runs a backbone of Extreme Black-Diamond switches, which support such applications as IP video streaming and voice. Alpine and Summit switches from Extreme also connect servers and end-user PCs to the campus LAN and WAN. Senter says he will investigate the PSP offering to see if it fits the school's needs.

The PSP starts at $15,000 for 50 managed devices. ■

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F5, Citrix get apps up to speed

BY PHIL HOCHMUTH

F5 Networks and Citrix Systems this week are expected to launch software and hardware products targeted at small and large businesses that want to speed up and secure Web-based applications.
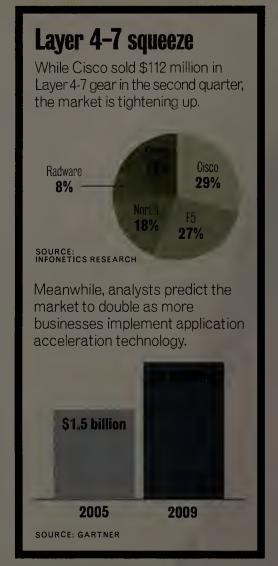
F5 is introducing a Web application firewall module for its application switches, with the promise of adding greater levels of data protection and security for e-commerce applications. F5's new rival Citrix is launching an application acceleration box under its recently acquired NetScaler brand, aimed at speeding up and securing small and midsize server farms.

F5's Application Security Module is software that runs on the vendor's Big-IP line of Layer 4-7 application switches and inspects Web traffic at Layer 7 and can actively filter, reroute or alter HTTP content to make Web applications run more securely, F5 says.

The software can look into Layer 7, or application layer, packet data such as HTTP address destinations, cookie information and other data. Instead of rerouting to servers or other devices based on the data, the software can alter the contents of the packet.

F5 says an example of this is stripping out credit card information or other sensitive customer data from Web traffic, or identifying harmful content such as malicious code in a Web packet and deleting it.

F5 says the Application Security Module running on F5 switches — which typically sit in front of servers in a data center — provides better security for Web applications than network firewalls, which provide more general traffic filtering. The software also adds security features to standard HTTP Web applications that would be costly and time-consuming to code in the applications themselves, the vendor adds.

The software starts at $15,000. It runs on all models of F5's Big-IP switches running Version 9 of its TM/OS switch operating system.

Citrix's new offering is a scaled-down version of its Application Switch Enterprise Edition, which runs in such data centers as Google and Merrill Lynch. Citrix says the Application Switch Standard Edition is targeted at customers that would not be able to afford the high-end NetScaler box, but need more application acceleration technology than basic Layer 4 load balancing switches, and possibly TCP/IP offload cards or SSL acceleration hardware running on servers.

The Standard Edition product is the first product application acceleration hardware launch for the company since it bought NetScaler in June for $300 million.

The device runs at 600M bit/sec for top throughput, as opposed to the 4.8G bit/sec of the Enterprise box. Also, the small and midsize business-focused device includes Layer 4-7 switching, load balancing, SSL offload and Layer 7 denial-of-service traffic identification features. But such services are implemented at lower rates of processing on the Standard Edition box, the vendor says.

The Citrix NetScaler Application Switch Standard Edition costs $17,500. The Enterprise Edition starts at $35,000. ■

Layer 4-7 squeeze

While Cisco sold $112 million in Layer 4-7 gear in the second quarter, the market is tightening up.

Radware 8%
Cisco 29%
Nortel 18%
F5 27%

SOURCE: INFONETICS RESEARCH

Meanwhile, analysts predict the market to double as more businesses implement application acceleration technology.

$1.5 billion

2005   2009

SOURCE: GARTNER

requests are blocked accordingly, Brown says.

These new Web offerings from MessageLabs compete with products from SurfControl, Websense and others that block malware and control Web access from a company's desktops, servers and gateway.

Easing administration

But MessageLabs says it's the only company to offer this protection as a managed service, making setup and ongoing administration easier. And that is a key reason why Perkins Eastman Architects is evaluating MessageLabs' offerings.

"A lot of our offices are unmanaged, so because there aren't a lot of hands on the hardware we try to keep our machines as clean as we can," Gonda says. "Because we have so many machines and no way of physically touching them, the only way to clean up spyware is to send one of our IT people to one of these sites, and that's not really a good use of our time."

Because the company already uses MessageLabs' managed e-mail security services, the Web services seem like a natural fit, he says.

The new Web services cost $3 per user, per month for one service, $4.50 per user, per month for two services, and $6 per user, per month for all three services.

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BMC rolls out new additions to identity suite

BY JOHN FONTANA

BMC Software last week expanded its identity management suite with three products designed to help end users handle regulatory compliance and integrate identity data with other companies.

BMC Identity Compliance Manager, Identity Federation Manager and Identity Discovery, which supports integration of identity data with BMC's Configuration Management Database, represent the second of a three-step plan to create an identity management suite. that BMC hopes will be completed in 2006.

The company is banking on its Identity Management Suite 5.0 to provide users with tools for regulatory compliance, identity allocation and management, identity federation and integration of identity with network applications and business process workflows.

BMC earlier this year acquired Calendra for its provisioning technology and OpenNetwork for its Web access management software. That software now represents the first phase of the plan. The three new products, which represent the second phase, were all built from the ground up by BMC, including a common user interface and workflow engine that cuts across all phases of the identity suite.

"What they have done here is make things modular and have it sit on top of what is now a common architecture," says Jonathan Penn, an analyst with Forrester Research. "You buy any component and it uses the underlying technology like workflow engines and connectors and other technologies you don't have to buy with each component."

BMC competitors Computer Associates, HP, IBM, Microsoft, Oracle, RSA and Sun also face the integration challenge.

Identity Compliance Manager lets users set compliance policies based on user identities. The software also ensures that policies are implemented and it provides a validation feature that compares network activity against corporate compliance policies.

"Now managers have a process and a tool that allows them to keep the organization in good corporate compliance," says Somesh Singh, vice president of the identity management business unit at BMC.

BMC also is supporting identity sharing with its Identity Federation Manager, which allows identities to be shared across department or corporate boundaries. The software supports standard protocols Security Assertion Markup Language (SAML) 1.0, SAML 2.0, Liberty ID-FF 1.0 and Shibboleth, as well as WS-Federation, which is backed by IBM and Microsoft.

With Identity Discovery, BMC is integrating identity data into its Atrium Configuration Management Database. This lets users include data about users in addition to information about hardware, software and applications. The combination, BMC says, strengthens change and configuration by supplying information on specific end users and how they will be affected.

BMC prices its software on a usage basis with the starting price for Identity Federation Manager at $10,000 ($3 per user), Compliance Manager at $15,000 ($6 per user) and Identity Discovery at $60,000 ($15 per user). ■

nww.com

Vortex 2005

This show will have leaders from AT&T, EMC, HP, Intel, Microsoft, Sun and more talk about security, collaboration, IT flexibility and more at the annual gathering of the key stakeholders in enterprise IT.

DocFinder: 7638

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Can Skype be a good corp. citizen?

TOLLY ON TECHNOLOGY
Kevin Tolly

To date, Skype has existed outside of the usual corporate IT structure, offering individual connectivity. But Skype's modus operandus is to "use its users" as relay points — rather than centralized servers. And as soon as the user plugs into the corporate net, that network also becomes a potential Skype resource. As such, Skype needs to do the diligence to become a good citizen on that network.

While attempts to prod Skype into changing its ways had little success when it was a stand-alone private company headquartered in Luxembourg, as a wholly owned unit of an American public company that likely will change. But what has to happen?

Essentially Skype need not actually change the way it does what it does, it just needs to clearly disclose its MO to the individual user, as well as start providing ways for corporate network managers to proactively manage the use and behavior of Skype resources (i.e., your laptop) when connected to the corporate network.

In response to my recent column outlining Skype's peer-to-peer architecture (www.network world.com, DocFinder: 9223), a reader involved in corporate converged networks wrote: "Delivering a consistently high-quality service seems problematic …as does any kind of debugging or troubleshooting. … and most security types that I know aren't exactly enamored by inviting applications [into their networks] that excel at concealing payloads and bypassing firewalls."

While Skype has yet to turn its interests toward taking a corporate network view of what it offers, third parties have emerged to bridge the gap. Commercial peer-to-peer blockers are already avail-

> ## Skype . . . needs to clearly disclose its MO to the individual user.

able on the market.

Making corporations choose a "block" or "allow" strategy is probably not the best thing for Skype in the long run. Skype should consider working with third parties and providing its own tools to help network managers "see" its presence in their networks and, where they allow it to remain, be able to manage it by invoking limitations on which resources are used — bandwidth, CPU — in which machines. If the corporate network is contributing to Skype's business by serving as a Skype resource (while also getting to use Skype), it should have some say over how its resources are used.

To the end user, Skype should clearly state in a splash screen that one's computer can be used for purposes other than transmitting and receiving one's own calls. Furthermore, it should provide real-time visibility to whatever "relay" functions one's machine is being called on to deliver.

Another writer asked how I knew that some Skype calls from adjacent machines were routed a continent away and back. Not from Skype, that's for sure. I had to harvest my information from tracing conversations and inspecting the resulting packet stream. It would, of course, be simple for Skype to include a real-time monitor to display the path that a conversation is traveling.

Furthermore, Skype's configurability vis-a-vis "participation" in the peer network is virtually nil. When you are on your machine it is fair game for use. (Predecessor Kazaa did allow such configuration.) Perhaps Skype should consider allowing users to pay a fee to be able to configure their level of participation in the peer-to-peer networks. Free users wouldn't have that feature.

The way is clear, but does Skype have the will to become a good corporate citizen?

Tolly is president of The Tolly Group, a strategic consulting and independent testing company in Boca Raton, Fla. He can be reached at ktolly@tolly.com.

PGP widens encryption software offerings

BY ELLEN MESSMER

PGP last week announced the second version of its PGP Universal desktop encryption software, adding a way for customers to encrypt the entire contents of a computer, including the operating system.

PGP Universal 2.0 will have an option for what PGP is calling "whole-disk encryption," because corporate users fail to encrypt sensitive information that they should, the company says. The first version of PGP Universal was limited to file and folder encryption methods that require the user to select which ones to conceal via PGP's encryption-key technology. With PGP Universal 2.0, expected to ship mid-November, the company will compete more directly against security vendors PointSec and Utimaco.

PGP also is adding the same whole-disk encryption capability to its stand-alone encryption product PGP Desktop Professional 9.0 for individual users and small businesses.

PGP Desktop Professional lacks many management features available in PGP Universal 2.0, such as management of encryption keys via Lightweight Directory Access Protocol-based directories, including iPlanet, Microsoft Active Directory and Novell NDS. Another difference is PGP Universal 2.0 can make use of a corporate key to unlock and recover any data the user scrambled.

The new releases support certificate and message formats that include X.509, OpenPGP and S/MIME. Key types are either RSA or Diffie-Hellman Digital Signing Standard, with maximum key length of 4,096 bits. Allowed ciphers are AES, IDEA, CAST, Twofish and Triple-DES.

PGP this week is expected to announce support for the Research in Motion BlackBerry handheld messaging device.

This would provide centrally managed PGP e-mail encryption for the BlackBerry.

The software, costing $199, is targeted for shipment late next month. PGP Universal 2.0 costs $250 per seat for the corporation; PGP Desktop professional costs $150. ■

WLAN QoS standard approved

BY STEPHEN LAWSON, IDG NEWS SERVICE

A specification that could improve voice and video on wireless LANs has received approval from the IEEE, ending a long standards-setting process but possibly setting the stage for more work on the problem.

The standards board of the full IEEE approved the 802.11e specification for publication in late last month, according to Geri Mitchell-Brown, Wi-Fi strategist at SpectraLink, a maker of voice over Wi-Fi systems.

The standard is a set of technologies for prioritizing traffic and preventing packet collisions and delays, which should improve the experience of users making VoIP calls and watching video over WLANs.

Mitchell-Brown expects vendors, and the Wi-Fi Alliance, to adopt specific elements of the standard as appropriate for common demands by users. The Wi-Fi Alliance has adopted a subset of the standard, called WMM (Wi-Fi Multimedia), which has been adopted by several WLAN vendors.

On WLANs that are based on standard 802.11, all users share the network's capacity, and no packet gets priority over any other. This usually isn't a problem with typical data applications, such as exchanging e-mail and browsing the Web, but with voice calls and streaming video, packets have to get across the network at the right time.

The 802.11e specification allows packets to gain priority by defining four traffic classes, each with its own queue. By default, these are voice, video, best effort and background, says Ben Guderian, vice president for market strategies and industry relations at SpectraLink. The definitions of the four classes could be changed from the default. To identify the class of each packet, the standard uses markers similar to those used in wired Ethernet, he says. Seeing those markers, an access point could give voice packets top priority for transmission, followed by video and so on, he says.

That piece combines with other mechanisms for preventing collisions between packets, Guderian adds. Another key element of the standard is a way of timing communications with client devices intended to conserve battery life in handheld devices, he says.

The new standard is a good start, according to IDC analyst Abner Germanow.

"It's a fairly good standard for small wireless LAN deployments where you have a need to prioritize certain traffic types, but it may not be the right standard for doing QoS in large-scale enterprise environments," Germanow says.

The problem with 802.11e is that it puts the power to request priority in the client, Germanow says. As a result, "anyone has the ability to mark e-mail as high-importance," he says. In larger deployments more control will have to reside in centralized servers or network mechanisms, he says.

As a result, the process of standardizing priority in WLANs may be just beginning, Germanow says. Vendors such as Meru Networks already offer mechanisms better suited to large enterprises, and it's likely that vendors will try to put more advanced technology into another standard that would go into WLAN gear alongside 802.11e, he says. ■

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- Application rate limiting
- Secure device management
- sFlow traffic monitoring

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ENTERPRISE COMPUTING

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HP buys RLX, targets Linux management

BY JENNIFER MEARS

HP is bolstering its management tools for blade servers with a plan to acquire RLX Technologies and its Linux-based server-management software.

Terms of the deal, which is expected to close in the next 30 days, were not released. The expected buy is the latest move by HP to fill out its software management portfolio through acquisition. Last month, it acquired Peregrine Systems, which makes asset management software, and AppIQ, a storage resource management company.

RLX was a pioneer in the blade server market, but exited the hardware business late last year, saying pressure from the major systems vendors, such as IBM, HP and Dell, was making it hard to compete. Instead, RLX opted to focus on Control Tower, its Linux-based server management software.

Analysts have lauded Control Tower for providing advanced provisioning and workload management capabilities for blade servers, designed to be clustered to support applications as a single pool of compute resources. Control Tower can be used to manage rack-dense servers.

For HP, Control Tower fills a gap in its management offerings by providing native Linux-based control, says Rick Becker, vice president and general manager, HP Blade-System.

Profile: RLX

Location:	Spring, Texas
Founded:	1999
Employees:	36
Customers:	200
Management:	Doug Erwin, chairman and CEO
Primary product:	Control Tower, server management software
Competition:	IBM Director, Dell OpenManage

Analysts say the move is a good one for HP, which has focused on integrating management tools across the data center.

"For the last year ... HP had gotten into a reactive position with some of their product development, and the problem they're running into is they've become so reactive that they were looking seriously at being left behind," says Charles King, principal analyst at Pund-IT Research.

He says integrating Control Tower into its BladeSystem offering will help HP compete with IBM. HP and IBM each control about 40% of the blade market, though IBM holds a slight lead, according to the latest figures from IDC.

"Certainly, infrastructure management is such a critical piece of blade offerings that you need a strong set of tools," King says. "It's not just a matter of having a smaller footprint; it's that you've got this highly integrated environment that can be managed in a seamless way."

RLX will become part of HP's BladeSystem group. The management software will be optimized for BladeSystem servers and is expected to be available on BladeSystem and ProLiant servers in the first half of next year, Becker says.

The management technology will be integrated into HP's Systems Insight Manager, ProLiant Essentials and OpenView management packages in the second half of next year, Becker says.

"Over time you'll see us take tools [that] Control Tower delivers today on Linux, and we'll integrate that into tools we deliver on Windows and Unix," Becker says. The idea is to provide integrated management capabilities as end users deploy more important business applications on blade servers, he says. ■

Short Takes

■ **Microsoft** last week released a management tool designed to keep its operating system running at its optimum. The Microsoft Windows Base Operating System Management Pack for Microsoft Operations Manager 2005 provides detection, alerting and automatic response to events and performance issues. MOM is key to Microsoft's Dynamic Systems Initiative, a broad plan to build a management platform for Windows that includes applications and infrastructure. MOM supports Windows 2000, Win 2000 Advanced Server, Win 2000 Professional Edition, Win 2000 Server, Win 2000 Service Pack 4 and Win Server 2003.

InSite: Lessons from Leading Users

Insurance adjusters use pen-based GUI, wireless

BY JOHN COX
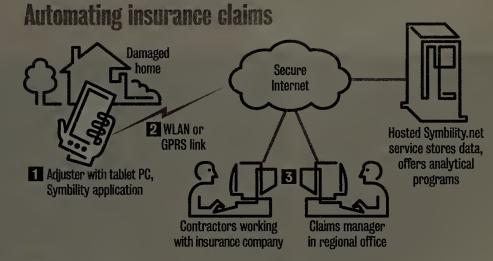
A Canadian insurance company is deploying to its field adjusters a new mobile application designed to speed damage claims and make repair estimates more accurate.

The application includes pen-based software on a tablet PC, a local or wide-area wireless network and a hosted service for data storage and processing, all through an application service provider (ASP). Gore Mutual Insurance of Cambridge, Ontario, found the combination let adjusters spend more time meeting with customers in the field, create estimates quickly and accurately without having to use a keyboard, and then upload the data to the ASP.

Gore has not decided what wireless services to use for connectivity, according to Jamie McDougall, Gore's vice president of claims. The software supports 802.11b wireless LANs (WLAN) and GPRS cellular connections.

The software and the hosted service, dubbed Symbility Mobile Claims, were created by start-up Symbility, which was acquired in 2004 and is now a division

Automating insurance claims

1 Adjuster uses Symbility forms, touch screen to create estimates on-site.
2 Wireless link uploads data to hosted server.
3 Authenticated contractors and in-house managers have immediate access to claim information.

of Automated Benefits. Other applications for field claims and estimates require lots of typing and lack an integrated wireless connection to server-based storage, processing and analytical tools, says James Swayze, Symbility's CEO.

Symbility sets up secure access to Symbility.net, works with the customer to deploy the application software on pen-based clients and trains users. Using an ASP, Symbility charges customers $20 per claim, regardless of its

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Peace of Mind

Securing the network at the edge keeps business out of harm's way

ProCurve Networking
HP Innovation

It was the CFO

who posed the "show-stopper" question at a recent executive committee meeting: "With all the resources and attention businesses are expending on security, why are we still besieged with continuous threats from viruses, worms, and hackers?"

He wasn't overstating the problem. Today an estimated 100,000 viruses, worms, and Trojan horses pose direct threats to network computer users. The cost of system downtime stemming from attacks can often be measured in thousands of dollars per minute, and the theft of sensitive data carries tremendous potential liability. So it's no wonder security remains a top priority for business and technology managers alike.

The truth is that current methods and strategies for securing corporate networks often fall short. Many companies use virus signature scanning techniques, but these technologies alone are not sufficient since they do not detect new forms of viruses and they depend on human response. Once in the network, a virus propagates at machine speed, which is orders of magnitude faster than the "human-speed" responses to them.

WHAT USERS WANT

Clearly, businesses need a complete solution that truly delivers security without compromise to protect networks and the mission-critical data that runs over them. A checklist of the features of such a solution should include:

✓ Simplicity for administrators and transparency for users
✓ Ease of deployment and flexibility
✓ Security built-in and integrated with the hardware, not bolted on
✓ Security at the critical network edge where users connect

This is exactly what users get, and a lot more, with Hewlett-Packard's ProCurve Networking solutions, engineered to move vital network access decisions to the network edge while freeing essential network resources to enable the high-bandwidth connections they are supposed to provide. By concentrat-

ing security at the edge, HP ProCurve further enables support for vital network convergence and burgeoning mobile strategies. The result is a solution without tradeoffs between ease of use and performance versus capability. ProCurve Networking offers security without compromise.

A key and unique element of the ProCurve solution is virus-throttling functionality built directly into ProCurve switches. This highly effective bulwark against viruses provides detection at the network edge based on traffic behavior, not virus signature analysis. The bandwidth on the port where the attack is detected can be throttled back or the port traffic can be completely contained. This functionality gives the IT staff the time it needs to first isolate and then eliminate viruses and worms before they cause system-crashing damage.

THE ULTIMATE IN NETWORK SECURITY

Unlike other virus detection technologies, the virus-throttling feature does not need preknowledge of specific worms and viruses to do its job because virus throttling is behavior-based. ProCurve switches with virus throttling can throttle or rate-limit routed traffic, or completely block traffic from a suspect client.

Not all virus attacks come from external sources outside of a network. It is increasingly important to protect access to the internal network behind the firewall to prevent virus attacks and threats to critical systems. Using ProCurve solutions, users effectively move security to the network edge, where trouble can be resolved before any damage is done to business-critical data. ProCurve's value proposition delivers intelligent security with ease of use, without sacrificing performance.

The bottom line is that with its many unique, powerful, and adaptable features, HP ProCurve Networking delivers on the core and essential value propositions of high network availability, efficiency, security, ease of use, and open-standards-based interoperability. For more information, go to **www.hp.com/learn/procurve.**

IBM, start-up become grid partners

BY CHINA MARTENS,
IDG NEWS SERVICE

BOSTON — IBM announced last week at the GridWorld show in Boston that it has licensed commercial releases of Globus middleware from Univa, a start-up focusing on open source grid software.

IBM says it will also use Univa's software on its grid projects.

"The important thing from our perspective for grid computing

really to be successful is for it to be implemented based on open standards," says Ken King, vice president of grid computing at IBM.

Univa's three founders — Steve Tuecke, Ian Foster and Carl Kesselman — created the open source Globus Project in 1995 and began development of the Globus Toolkit. They later renamed the project the Globus Alliance. The grid tool kit

includes software services and libraries for resource monitoring, discovery and management, along with security and file manage-

> **"This sort of relationship is exactly why we created Univa. IBM is very strategic for us."**
>
> *Steve Tuecke, founder, Univa*

ment. Last December, Tuecke and the other founders formally launched Univa as a software and services company to offer commercial implementations of Globus.

Univa plans to deliver its first commercial product, Univa Globus Enterprise, by year-end.

The initial version of the software will be well supported to run across IBM's eServer hardware on both Linux and AIX, IBM's flavor of Unix, Tuecke says, along with other vendors' platforms.

"This sort of relationship is exactly why we created Univa," he says. "IBM is very strategic for us."

IBM's King drew parallels with the development of Linux, as the Globus Toolkit plays the part of the open source operating system, while Univa takes on the role of Linux distribution companies Red Hat or Novell's SuSE in creating commercial products.

The agreement between IBM and Univa is non-exclusive, and King says he hopes other companies, particularly application vendors, will strike up similar arrange-

ments with the start-up. Tuecke won't discuss the status of other pending deals, particularly one that has been long rumored with SAP.

IBM has been a longtime backer of Globus, previously developing its own implementation of the open source Globus Toolkit, King says. Once Univa's product ships, IBM will move its in-house and customer developments based on Version 3 of the open source software to Univa's commercial implementation, he says. Univa Globus Enterprise will be based on the fourth iteration of the Globus Toolkit.

"We will continue to support customers using our [IBM] implementation," King says. IBM will also continue to contribute technology back to the ongoing open source development of the Globus Toolkit, he adds.

In January, IBM, Sun, HP and Intel teamed to form the Globus Consortium, an effort to invest money and technical know-how in improving the Globus Toolkit, initially to fix bugs.

Using the Linux analogy again, Tuecke likens the Globus Consortium and its functions to those carried out by the Open Source Development Labs in the Linux arena. The labs operate as a nonprofit consortium that promotes use of the open source operating system. ■

First Power5+ servers released

BY CHINA MARTENS, IDG NEWS SERVICE

IBM last week released the first servers based on its new 64-bit Power5+ processors. The machines are aimed at small to midsize businesses and include several new products, notably a quadcore server, together with virtualization and systems management software.

The Power5+ chips come in clock speeds of either 1.5GHz or 1.9GHz with a maximum of 72M bytes of onboard cache memory, according to Jeff Howard, program director for IBM's p5 product marketing.

"We're heavily targeting SMBs," Howard says. "More than 58% of the Unix opportunity is in the SMB space." IBM typically defines SMBs as companies with 1,000 or fewer employees.

The new System p5 550 Q is powered by a 1.5GHz quadcore Power5+ chip, enabling the hardware to function as an eight-way machine, he says. The System p5 505 is IBM's first rack server for the Power5 or Power5+ architecture in a 1U form factor.

"We're starting with p5 and will extend [the Power5+ chip] to the midrange and high-end in

2006," Howard says.

IBM also upgraded two existing server models to feature the new chip — the two-way 1.9GHz System p5 520 and the four-way 1.9GHz System p5 550.

The servers are available with IBM's own flavor of Unix, AIX 5L, or in what Big Blue calls the OpenPower edition with the Linux operating system from either RedHat or Novell. The machines are part of IBM's Express line of hardware targeting both SMBs and start-ups.

IBM is dropping the eServer prefix from its p5 product line and replacing it with "System," a rebranding move begun in July when the company introduced its latest mainframe as the System z9.

Big Blue expects all the Power5+-based machines to ship starting Oct. 14. The System p5 505 has a starting price of $3,750, while IBM is still completing pricing for the other servers.

IBM announced two new software products targeted at SMBs. Integrated Virtualization Manager provides a browser-based interface for the company's virtualization micropartitioning capabilities. ■

Insurance

size or how long it takes to settle. If outside contractors or independent adjusters "touch" the claim, they pay a one-time $5 fee.

Symbility began offering its software and service in the U.S. this summer.

Gore's adjusters had conducted estimates partly by using a program running on laptops and partly by jotting notes and figures in longhand. "The [user] interface was not as good as Symbility," McDougall says. "What I'd like to do is use my time in the field effectively by entering data on-site and entering it once."

Gore piloted Symbility Mobile Claims, starting in April with four adjusters. The software was loaded on Toshiba Tablet PCs, which incorporated both 802.11b and Bluetooth wireless adapters.

The critical issue was whether the application's interface made it easy for the adjusters to use in the field, without having to type in text and data. "Some tools out there are not built with the field adjuster in mind," McDougall says.

Working with the Tablet PC pen, adjusters can sketch a room or building, then drag-and-drop on the screen data items, such as hardwood or carpeted floors and drywall or oak paneling. Tapping and selecting through various drop-down menus, adjusters create a

detailed picture of the property and the damage. Using up-to-date cost databases, the software generates and breaks out estimated repair costs.

So far, the adjusters have been using conventional tape measures in their work. But Symbility's software offers a wireless Bluetooth interface to Leica Geosystems' Disto, a handheld laser-measuring device. Using the interface, Symbility Mobile Claims can collect distances from Disto and display them with the adjuster's diagram.

For the pilot, uploading the data to Symbility.net was done over Gore's corporate WLAN. Once Gore sets up a cellular data service, all this data can be uploaded at once, leaving the adjuster

free to drive to the next job without having to re-enter data at an office.

The hosted Web service stores the data collected by the adjuster along with policy numbers, claim number and relevant deductible amounts. The hosted service also can notify Gore's contractors and subcontractors, as well as the field and office staff, about new data and the status of the claim via e-mail, voice calls or text messages to cell phones. Finally, Symbility.net provides a complete audit trail of the claim and who accesses it.

Gore's McDougall says the centralized storage of this data will make it possible to create and run analytical programs to identify cost trends and help adjusters and contractors fine-tune estimates. ■

SPECIAL FOCUS

EXPANDING SERVER OPTIONS

A whole new look for x86 systems

BY JENNIFER MEARS

With its lease about up on its midrange Sun Fire V880, the Applied Research Laboratory at The Pennsylvania State University was looking to cut costs and boost efficiencies. Initially, its plan was straightforward: move off the expensive Sun box and onto lower-priced Xeon-based Dell servers running Linux.

Today, however, the research lab is taking a second look at Sun and its new Opteron-based Galaxy servers. The servers, introduced last month, are the first x86 boxes designed by Sun engineers. Sun co-founder Andy Bechtolsheim is leading the design team building the servers focused on high performance, better cooling and advanced manageability.

The Galaxy systems are the latest example of beefed-up x86 servers, giving users more choice when it comes to designing their data centers. The move from expensive, proprietary systems to less-expensive, standards-based servers is nothing new. But the trend for the last few years has been to cluster these low-end servers to provide the processing power needed to migrate important business applications from high-end systems. Today, the x86 servers themselves are providing more processing power, flexibility and manageability.

Enhanced virtualization

With features such as 64-bit support, enhanced virtualization capabilities and dual-core designs available from Intel and AMD, systems vendors are rolling out more-advanced x86-based servers.

IBM invested three years and $100 million into developing X3, a Xeon-based chipset that brings mainframe-type reliability and virtualization capabilities to standards-based systems. It began shipping servers based on the chipset earlier this year.

"Over the next year, I believe we'll start to see more boxes that have the kind of heavy-duty engineering, in terms of both box structure and packaging and power supplies and cooling, that people have been building around [Intel's 64-bit] Itanium starting to show up around Xeon and Opteron," says Nathan Brookwood, principal analyst at Insight 64.

Pump up the volume

Technology advances are making volume x86 servers more powerful. A sampling of recent enhancements:

- April 2003: AMD unveils the 32-/64-bit Opteron processor.
- June 2004: Intel adds 64-bit support to Xeon.
- April 2005: AMD announces dual-core Opteron.
- October 2005: Intel debuts dual-core Xeon processors.

The new dual-core Opteron-based Sun Fire X4200 is an example of the higher processing power, and improved manageability now available in x86 systems.

Already, change is starting. A report issued by IDC in April, estimated that sales of volume servers — those priced below $25,000 — accounted for nearly half of the total worldwide server spending in 2004, up from 43% in 2003.

Major drivers

"The higher processing power and improved management capabilities and interfaces that compare with features formerly only available on higher-end systems are major drivers for growth across this much more modestly priced range of servers," the report says.

While IT buyers purchased volume systems as a result of pressure to cut costs in 2003, the motivation in 2004 was more about stepped-up performance and streamlined management, the report says.

"It's no longer just the cost of these servers that is driving adoption. It's also the higher level of processing power and ease of manageability," the report says.

Users want to consolidate an exploding number of x86 systems but don't want to move to higher-end servers, which may require them to change operating systems or modify applications. As a result, they're looking for the computing muscle and manageability once limited to more expensive high-end machines, analysts say.

In Penn State's case, the Applied Research Laboratory was set to move its Oracle database applications from scalable processor architecture (SPARC)-based servers to Intel-based Dell servers running Linux. But the Galaxy servers provided an interesting alternative, especially because they would allow the research lab to continue running its database on Solaris.

"The Galaxy systems will allow us to maintain our investment in Solaris expertise, while also moving to the grid paradigm," says John Groenveld, associate research engineer at the university in State College, Pa. "Our purchase will depend on whether they provide significantly better responsiveness for our Oracle transactions without huge new power and cooling requirements."

Cool speed

Power and cooling are on the minds of Intel and AMD. Both have moved to the dual-core design that IBM, Sun and HP have been using to pump up processing power, while reining in power and heat, for their RISC chips. IBM rolled out its

first dual-core Power processor in 2001, and Sun and HP followed suit with dual-core RISC chips last year.

In the x86 market, AMD, which was the first to add 64-bit support to the 32-bit platform, introduced its dual-core Opteron in the spring. Intel is expected to formally launch its dual-core Xeon today. Putting two processing engines, or cores, on a single piece of silicon enables chips to work harder, while consuming less power. Instead of ramping up clock speed, as chip makers have typically done, two lower-power cores that can share tasks are placed on a single chip.

Today's x86 servers are offering more than faster processing; they can support more memory associated with 64-bit workloads, as well as more-advanced virtualization capabilities, thanks to software from Microsoft, SWsoft and VMware. In addition, Intel and AMD are building virtualization features into their silicon.

"X86 systems are far more capable than they used to be," says Charles King, principal analyst at Pund-IT Research.
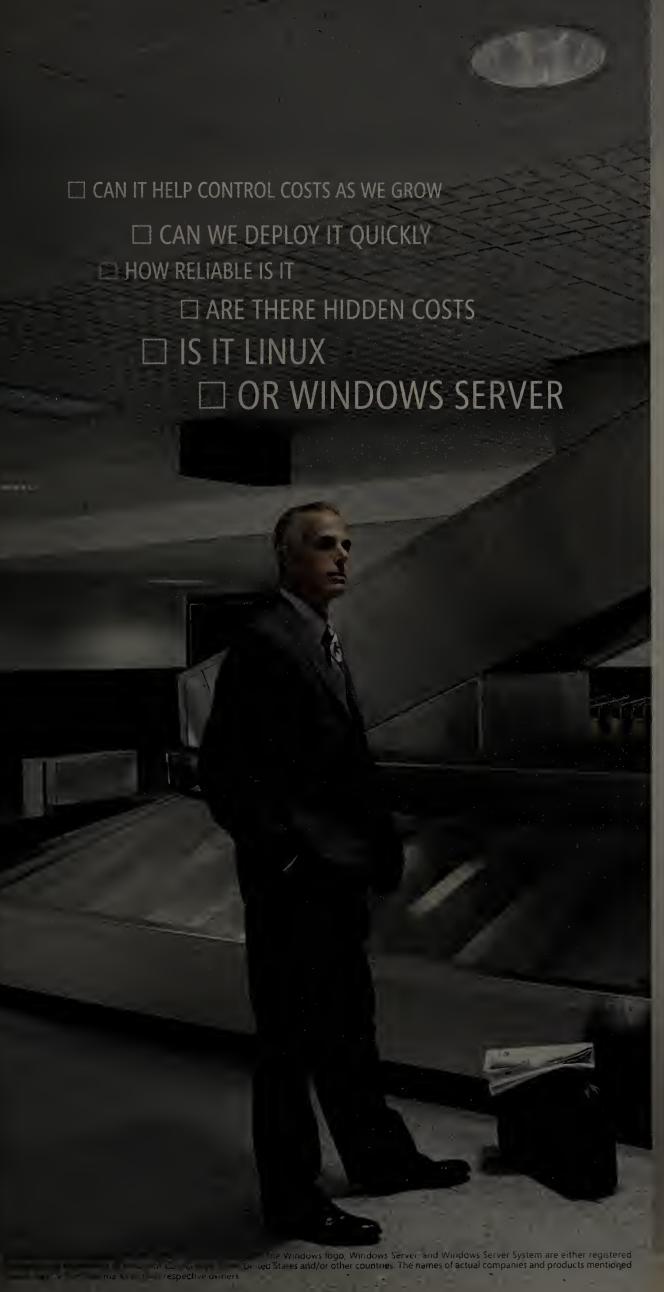
But King notes that while x86 systems are growing up, IBM and Sun are adjusting their high-end RISC chips, introducing lower-priced Power and UltraSPARC servers. IBM, for instance, is targeting small and midsize businesses (SMB) with low-priced servers based on its new Power5+ processor (see story on page 33).

"Where x86 systems may have the benefit is that SMBs are comfortable with the applications on that platform," King says.

Still, the move to run 64-bit workloads on x86 servers is happening slowly, in large part because of a lack of 64-bit application support.

Unlike with Itanium, which uses a completely different instruction set, there is no requirement that users employ the 64-bit extensions available on hybrid x86 chips.

"The fact that Itanium didn't take off as expected is really because it is only in certain types of applications [such as databases] that there was a driving need to go beyond 32-bit to the larger memory you see in RISC servers today," says Gordon Haff, an analyst at Illuminata. "But 64-bit extensions [to x86] are here, and there is no penalty to having a server that is capable of supporting 64-bit, whether you need it or not. That's the nice thing about the x64 approach." ∎

> "Over the next year, I believe we'll start to see more boxes that have the kind of heavy-duty engineering . . . that people have been building around [Intel's 64-bit] Itanium starting to show up around Xeon and Opteron."
>
> *Nathan Brookwood, principal analyst at Insight 64*

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☐ HOW RELIABLE IS IT

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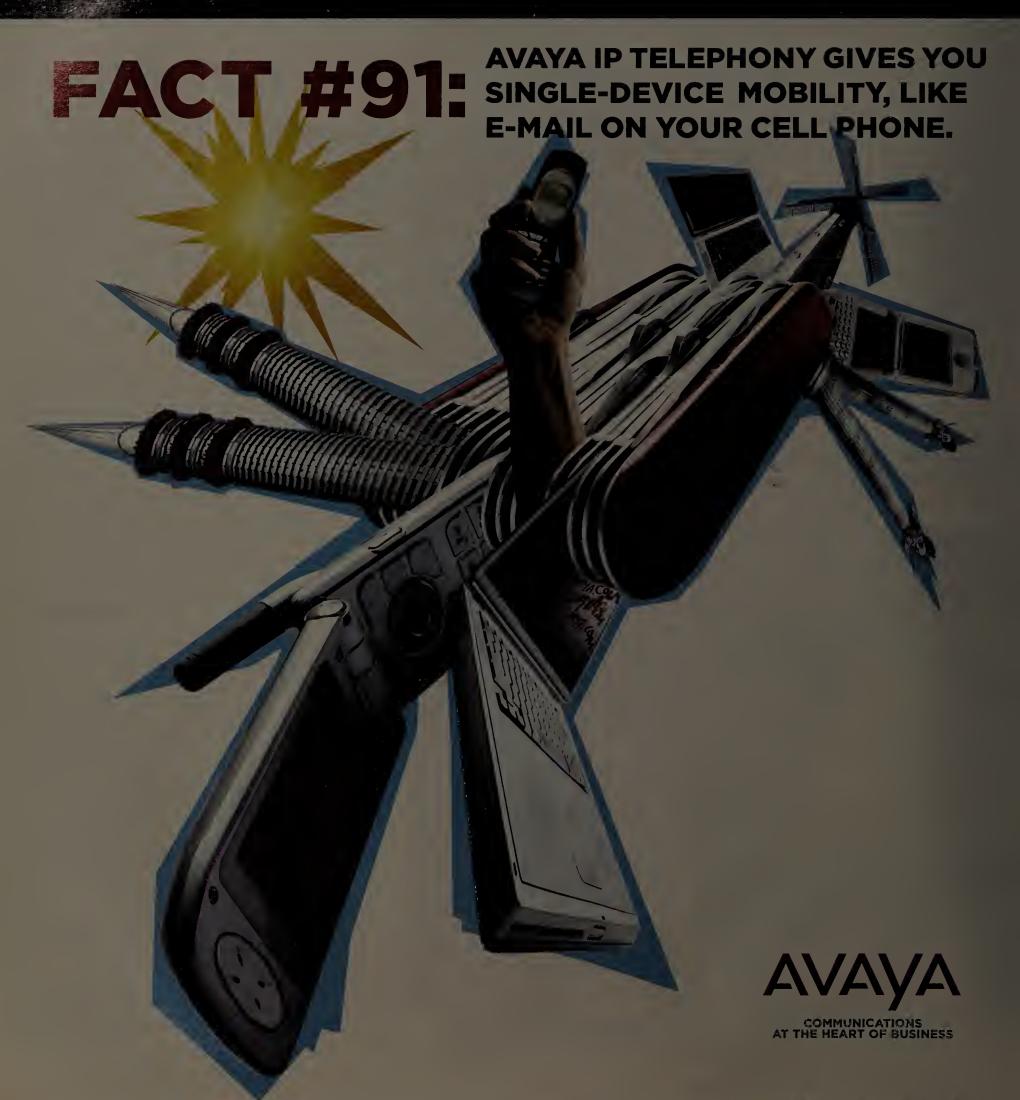
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–Rick Dempsey, Chief Information Officer, Rayovac

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Short Takes

■ **Teradata,** a data warehouse and analytic software maker, recently unveiled a new version of its marketing applications suite. Teradata Relationship Manager Version 6 is aimed at integrating analytical and operational CRM data so companies can deliver more timely, relevant offers to customers and improve campaign response rates. The new version has 100 more features than does its predecessor, Teradata CRM, the company says. Among the additions is a role-based user interface that tailors campaign metrics and workflow processes to different users on the marketing team. Relationship Manager Version 6 will be available in the fourth quarter.

■ Business intelligence software vendor **Business Objects SA** plans to buy information visualization software developer **Infommersion** for about $40 million in cash. Infommersion is a privately held company that sells Xcelsius, an application that presents business intelligence data from back-end systems as interactive charts, graphs and dashboards, and can package them in formats including Adobe's PDF and Microsoft's PowerPoint presentation tool. Business Objects plans to use Infommersion's technology to enhance the way its software presents data. The companies expect to close the deal in the fourth quarter.

■ Identity audit and control vendor **Trusted Network Technologies** said last week it would offer free identity audit services for qualified universities and colleges as part of its Identity Now! for Higher Education program. The company says the two-week network audit would reveal which students, professors, teachers, administrators and researchers are interacting with resources that contain personnel files, academic records, financial data and other sensitive information. Schools interested ican apply at www.trustednetworktech.com/IDNow.

Nortel, Witness aid call centers

BY ANN BEDNARZ

The desire to implement flexible staffing options and optimize employee performance is driving many of today's call center-related IT investments.

Every Fortune 500 company has at least one call center, and each employs an average of 4,500 agents across their sites, according to McKinsey & Co. Companies that maximize the usefulness of their call centers — by acting strategically and making judicious technology investments, for example — can increase revenue from call centers by 20% to 35% and cut costs by 15% to 25%, the research firm estimates.

To help companies improve their call center operations, Nortel and Witness Systems recently added to their respective call center product portfolios. Nortel's latest software initiative is designed to let companies more easily tap experts outside the call center to handle customer inquiries on the fly. Witness Systems' new suite combines workforce management, quality monitoring, e-learning and performance management features in a single, unified package.

With Nortel's Expert Anywhere software bundle, companies can direct customer calls to the most appropriate employee, whether that employee works in a call center, branch office, retail store or home

Big business

Companies with call centers spend more than

$300 billion

worldwide according to McKinsey & Co. The annual operating budget of a 200-agent center is more than $10 million.

office. Businesses can add company experts to their pool of customer service agents during peak times or to handle specific high-level questions, for example, without having to hire more call center agents or expand their call center facilities.

"It's about being able to tap into certain individuals of high skill sets without making that person physically sit in a contact center," says Roxann Swanson, vice president and general manager of multimedia applications at Nortel. The foundation of Expert Anywhere is Nortel Application Center, a SIP-based platform for IP-based call centers that combines speech recognition, unified messaging and collaboration functions with common management and reporting tools.

In the past, it's been tough to get visibil-

ity to certain kinds of experts outside the contact center and immediately determine their availability to assist with a customer call, Swanson says. With Expert Anywhere's presence and routing capabilities, an agent can find someone who is available and appropriately skilled to pass a call to, regardless of their location. "You can make that connection immediately," she says.

For its part, Witness Systems unveiled a product suite called Impact 360, which is expected to be generally available by year-end. The suite integrates Witness Systems' existing quality-monitoring applications with workforce management software the company gained in its $75 million acquisition of Blue Pumpkin, which was finalized in January.

By combining the two feature sets, Witness Systems says it can help companies link previously disparate systems and streamline key management functions. For example, the Impact 360 software could automatically send training requests to the scheduler and assign learning sessions for an agent if the call recording and evaluation tools identify a problem with the agent's customer interactions.

One-stop-shopping for workforce optimiza-

Microsoft Office gets PDF support

BY ELIZABETH MONTALBANO,
IDG NEWS SERVICE

Microsoft is adding native support for PDF in the next version of its office productivity suite, code-named Office 12, which is expected to be available next year.

Office 12 will let users save files in any Microsoft Office program, such as Excel, PowerPoint or Word, as a PDF file by using the "save as" command, according to Microsoft. Users can redistribute the created PDF files electronically as read-only files, but they cannot be viewed from within Office itself. A PDF file viewer is still required to view Office-created PDF files on screen.

Microsoft rival Adobe created PDF as a way for documents to be shared easily across applications that support disparate file formats, and it is widely used as a standard way for Internet users to send and

receive documents.

Microsoft announced in June that XML would be the default file format in Office 12, with the reasoning that XML-based documents would be easier to archive and share because XML is an open standard. Microsoft plans to use the Office 2003 Open XML schemas as the default for saving and creating documents, spreadsheets and presentations in Office 12.

Microsoft also is developing another file format, Metro, which lets users view Office files without using Office applications. Some see the technology as Microsoft's own version of PDF. However, Microsoft plans to release Metro as part of the next client version of Windows, Windows Vista, so it's not likely the technology will be used on other operating systems the way PDF is.

Open file formats have garnered attention

recently when the commonwealth of Massachusetts announced a plan to migrate to open file formats for all documents generated by its government agencies. The state is going forward with plans to support the newly ratified Open Document Format for Office Applications, or OpenDocument, as the standard for its office documents.

Developed within the standards body Organization for the Advancement of Structured Information Standards, OpenDocument is an XML-based file format that covers the features required by text, spreadsheets, charts and graphical documents.

Suites that support OpenDocument include OpenOffice, StarOffice, KOffice and IBM Workplace. Microsoft Office does not support the file format.

A beta of Office 12 is expected to be available before year-end. ■

CA touts Concord, Aprisma support

BY DENISE DUBIE

BOSTON — Computer Associates last week sent its big guns to a local user event in an effort to show support for its newest customers and detail CA's commitment to product integration and development.

About 400 Concord Communications and Aprisma Management Technologies customers got to hear firsthand from CA President and CEO John Swainson and CTO Alan Nugent, who delivered separate keynote speeches, how the management heavyweight plans to bring the technology it acquired this year into its Unicenter software suite.

In June, CA completed its acquisition of network performance management vendor Concord and its eHealth Suite. In the process, CA also picked up Aprisma, which Concord acquired in February, and the former Cabletron company's Spectrum network fault management and root-cause analysis software.

CA, one of the top four management software makers in terms of market share alongside BMC Software, HP and IBM, says its Unicenter systems, mainframe, database and application technologies will benefit from the network expertise Concord and Aprisma bring to the table.

"With Unicenter NSM, [Network and Systems Management], the N should have been lowercase because of our weaknesses in the network," Nugent says.

CA shared with attendees a road map of its Unicenter r11 products, which it will further detail at its annual CA World conference in Las Vegas next month. The company is expected to announce technology to manage virtualized networks in new releases, for example. But to start, CA last week said eHealth and Spectrum are being developed to have the same look and feel, to employ similar workflows and to support the same platforms and vendor gear across the two products. That integration will be carried over to Unicenter, as well, CA says.

"We are developing integrations while also keeping the products modular enough to help customers purchase tools separately but use them togeth-er," says Tom Hayes, director of product marketing at CA. "We will determine what we keep from each product's technology stack based on performance and customer input."

> **"We have to walk the talk. We will be seeing customers, hearing their concerns and answering their questions."**
>
> *Alan Nugent, CTO, Computer Associates*

CA says Concord and Aprisma shared about 100 customers, which can immediately take advantage of the integration CA developed between the two technologies. A software module will be built into eHealth and Spectrum applications going forward and is being tested with beta customers. In the future the two products and CA's own Unicenter will be reshaped to use the same database, polling and discovery mechanisms, for example, in the core underlying technology.

According to Nugent, CA invests about $2 billion in its Enterprise Systems Management and Business Service Optimization divisions, which oversee various Unicenter products and are among five business units announced earlier this year under the new direction of Swainson. Nugent says CA intends to show Concord and Aprisma customers that CA's bad reputation for customer service is a thing of the past.

"We have to walk the talk. We will be seeing customers, hearing their concerns and answering their questions," Nugent says. ∎

Vendors upgrade operations automation gear

BY DENISE DUBIE

IT automation vendors last week upgraded their software platforms to help customers process jobs and manage workloads more efficiently across heterogeneous networks.

The common theme in upgrades for the products — OpTier's CoreFirst and Optinuity's C2O — is more detailed policy and process definition, which the vendors say will help their customers better automate manual work such as running batch jobs across mainframe and distributed environments.

Industry watchers say these types of operations automation products can help IT managers improve application and service performance, and ensure service levels are met by monitoring the supporting systems.

OpTier's CoreFirst 1.4 requires IT managers to install a central data repository on a dedicated server and to distribute agents on managed Web, database and application servers. Customers must set the policies they want the software to use via a Web-based interface, which also serves as a management interface and reporting tool. Once deployed, CoreFirst discovers how applications traverse the network and use the managed devices, and the agents monitor the transaction workloads on the servers.

For example, an IT manager would prior-itize the top five applications for the company. The agents would monitor the workload on the servers used by those applications, and when a transaction associated with the prioritized applications competed for compute resources with another transaction, the CoreFirst agents would allocate resources to the higher priority applications ahead of other transactions.

In this release, OpTier also added support for corporate applications such as SAP NetWeaver Application Server and SAP NetWeaver Portal, which the company says can "provide visibility into legacy SAP system connections." The upgrade also supports WebSphere and WebLogic portals. CoreFirst 1.4 includes enhanced policy management control and broader protocol support, including Java messaging service. IBM AS/400 connectivity also is new to this release.

"After identifying the elements of a complex transaction, firms must optimize the entire system that supports that transaction," says Jean-Pierre Garbani, a vice president at Forrester Research, about OpTier's release of CoreFirst 1.4. "CoreFirst performs three functions required by a modern service-oriented architecture," which Garbani explains are dependency analysis, monitoring and optimization.

Pricing for CoreFirst 1.4 is based per CPU and starts at about $100,000.

Competitor Optinuity also enabled its software to support more applications by adding "support for Simple Object Access Protocol client calls to various Web services." The company says it enabled its C2O Version 2.0 to more easily interoperate with multiple third-party systems, without requiring customers to do a lot of manual integration work.

"Optinuity gives you a tool kit with which customers can automate basically any process that they have," says Rich Ptak, principal analyst with Ptak, Noel & Associates. "Competitors such as OpTier add specific support for, say, SAP, but Optinuity gives customers more flexibility to build automation and remediation into any process by pulling data from a wide range of sources."

C2O uses centralized server software to monitor and measure tasks against pre-defined IT processes by using data collected by software agents distributed on application, Web and other production servers across a corporate data center. C2O uses proxy servers to monitor actions on routers and other devices onto which software agents cannot be installed.

C2O helps automate IT production tasks ranging from running batch jobs, to rebooting a server to troubleshooting application performance problems, says Kirk Greene, senior systems architect for Galveston County IT in Texas. He's been using the pre-vious version of the product to automate three major processes, which in the past would fail under manual execution.

"We did scheduling on the mainframe that would start there and then have to go over to a Wintel box, and one of our biggest problems was that the second part of the job would never run and the operators didn't know it had arrived," Greene says. "Optinuity lets you build live flow-charts so you can automate the process by specifying, as the job travels from place to place and as this happens, do this, or when a big file transfer is completed, discontinue the job."

Greene says in light of the recent hurricane activity in his area he hasn't gotten the newest version running, but he is looking forward to working with the new user interface and expanding the product's use beyond three processes. He also says he would still like to see the product better integrate with other third-party monitoring systems.

C2O "is stand-alone now, but it would be helpful for it to integrate with a [IBM Tivoli] NetView to correlate, say, if the network runs more slowly when a certain job is processing," he says.

Pricing for C2O Version 2.0 starts at about $150,000 for a typical multi-server application environment consisting of 10 to 12 CPUs. ∎

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More questions than answers

NET INSIDER

Scott Bradner

You can't get them all right. It's now been more than a year and a half since I complained that the FCC was trying to deal with the complex issue of wiretapping the Internet "with unseemly haste," but the FCC has just released yet another in a series of documents on the topic. This one, like its predecessors, leaves the reader with more questions than answers — and there are more documents to come.

In March 2004, I reported on an FCC request for comments on applying the Communications Assistance for Law Enforcement Act (CALEA) to the Internet and Internet-based services (See "Looking for the dumb ones," www.networkworld.com, DocFinder: 9225). The result was a Notice of Proposed Rulemaking (DocFinder: 9226) published a few months later ("FCC chooses middle road on 'Net wiretapping," DocFinder: 9227). That notice asked for comments on some of the FCC's tentative conclusions.

The new document (DocFinder: 9228) represents the FCC's final decision, based at least somewhat on comments received in response to last year's Notice of Proposed Rulemaking. The current document also contains a new notice, as well as a request for comments dealing with a number of topics, but is mostly focused on the FCC's conclusion that facilities-based broadband Internet access providers and providers of "interconnected VoIP" are subject to CALEA's wiretapping requirements.

The logic that the FCC uses is often rather tortured. For example, it says that a VoIP provider that uses gateways to direct calls to and from the public switched telephone network (PSTN) fits the switching requirement because it "*must necessarily* use a router or other server to do so." Of course, this condition is true of all services offered over the Internet, not just interconnected VoIP. So where should the boundary be?

You should expect that a large pod of lawyers will spend lots of clients' money (including your tax dollars) arguing the details of FCC's decision and the authority of the commission to decide what it did in the light of the enabling laws. From my strictly non-lawyer point of view, I expect the courts to toss out this set of decisions but that Congress will quickly change the law to produce about the same result.

There is a lot of strangeness in this document. On one hand, the FCC says that an Internet access provider would have "no CALEA obligations with respect to, for example, the storage functions of its e-mail service," while at the same time implying that the same access provider would have to tap data going into or out of the aforementioned storage. Seems like an irrelevant difference. The FCC definition of an interconnected VoIP provider is strangely worded: It says that VoIP providers that both send calls to and receive calls from the PSTN are covered, but ones that go only one way are not, nor are ones where the user can employ a PSTN gateway provided by a third party as long as the VoIP provider has no specific arrangement for using the gateway.

The FCC still considers enterprise networks exempt. But the commission has not yet made up its mind about a number of other connectivity providers, such as hotels. This is far from the last word on the topic, including from me next week.

Disclaimer: Rules like this are music to the ears of law school graduates, but I got no input from any of them for the above.

Bradner is a consultant with Harvard University's University Information Systems. He can be reached at sob@sobco.com.

Siebel deepens Office-CRM integration

**BY STACY COWLEY,
IDG NEWS SERVICE**

Siebel Systems last week released an updated version of its Professional Edition, a lower-cost version of its CRM software aimed at small and midsize business users.

Siebel Professional Edition 7.8 deepens the software's connection to Microsoft's Office applications, adding integration with Microsoft's Sharepoint collaboration tools and allowing users to directly access Siebel contacts and appointments from Microsoft Outlook.

The new version also introduces integration with Siebel Contact OnDemand, Siebel's hosted software for call routing and other telephone communications infrastructure.

Siebel's Professional Edition debuted in early 2004 and now is used by several hundred organizations, according to Rob Reid, Siebel's SMB group vice president. The package includes Siebel's sales, service and marketing software, with other features available as add-on modules. Its price tag is $995 per user, about half the cost of Siebel's enterprise CRM software, which allows greater scalability.

Siebel's future product road map and pricing are somewhat uncertain now because of its pending acquisition by Oracle, expected to close early next year. Siebel CRM suite, including versions tailored for several vertical industries, such as manufacturing and distribution, telecom, life sciences, financial services and public sector, all were mentioned by Oracle as important products. Siebel's top customers reads like a who's who of high tech: IBM, HP, Microsoft, Cisco and Sun, as well as Deutsche Telecom, GM and Bank of America.

To maintain Siebel's top position, Oracle will have a sales team specifically focused on selling only the CRM product line. While it will continue to offer Oracle's own CRM software and the CRM product from PeopleSoft, Ellison made it clear that Siebel's software and its development and sales expertise will drive Oracle's growth in this market.

Reid doesn't anticipate major shake-ups for Siebel's Professional Edition, however.

"I can't speculate on what will happen, but I do not believe that we will be any different than we are now," Reid said. ∎

Survey says software spending stable

BY ANN BEDNARZ

IT budgets are generally stable, but companies are still looking for ways to reduce IT expenses, according to new research from Goldman Sachs.

In the firm's latest IT Spending Survey, conducted in August of 100 managers at multinational Fortune 1000 companies, 71% of respondents said their IT budgets are stable. Of the remaining respondents, 20% said their IT budgets still are getting squeezed by top management and falling as a percentage of revenue. Only 9% indicated their IT budgets are growing faster than the overall business and as a percentage of the company's revenue.

As companies begin to slowly but surely shift toward deploying services-oriented architectures (SOA), Goldman Sachs expects they'll be on the lookout for infrastructure software — such as systems management and security products — and integration services. In addition, early stage SOAs will require software to help companies tie together loosely coupled software components, including application integration, portal and business process management tools. As SOAs mature, the need for robust infrastructure products, such as a service registry and enterprise service bus, may become more compelling, according to the firm's research.

Conversely, spending on server hardware might decrease as companies shift from resource-consuming, monolithic applications and toward loosely coupled applications. Spending on custom application software could fall as SOAs emerge and make it easier for companies to cobble together and deploy applications using modular services, Goldman Sachs reports.

On the vendor front, business intelligence players are ripe for gains. Goldman Sachs routinely asks respondents which vendors are gaining and which are losing share of IT spending. The firm for the first time added business intelligence vendors to its menu of software companies, and Hyperion and Cognos both ranked among the top 10 share gainers. The analysts say the popularity of business intelligence vendors is due to the increasing importance of financial analytic applications.

Server virtualization technology also is in demand. VMware, a division of EMC, led the pack of companies gaining IT spending share, Goldman Sachs reports. ∎

Call center

tion tools so far has been an elusive opportunity. In a survey of 200 call center professionals, many respondents were already using quality-monitoring software (83%), hiring and recruiting tools (44%), e-learning software (37%) and agent performance analytics (30%). However, few had acquired more than one tool from a single vendor, according to the Society of Workforce Planning Professionals.

Among respondents, 76% said they acquired each technology from a separate source, 21% said two or three systems came from the same vendor and only 3% had acquired three or more products from one source. ∎

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User experience may vary based on network conditions where available.

SERVICE PROVIDERS

■ THE INTERNET   ■ VPNS   ■ INTEREXCHANGES AND LOCAL CARRIERS   ■ WIRELESS   ■ REGULATORY AFFAIRS   ■ CARRIER INFRASTRUCTURE

Short Takes

■ The city of Philadelphia has selected **EarthLink** to deploy a citywide wireless broadband network, the largest municipal Wi-Fi network in the U.S., the company announced last week. The Wi-Fi deployment in the country's fifth-largest city is expected to be finished by the fourth quarter of 2006, EarthLink says. The ISP will deploy a mesh Wi-Fi network covering 135 square miles. Under the terms of the EarthLink proposal, no city or taxpayer dollars will be used to fund the project. EarthLink will finance, build and manage the wireless network, and share revenue with the city's Wireless Philadelphia initiative. Terms of the deal were not immediately disclosed. Philadelphia's plan to build a citywide Wi-Fi network has met criticism from Verizon, which offers DSL and wireless broadband service to the area. EarthLink and the city have reached agreement on the major terms of the contract and are working to complete the agreement within 60 days. Earthlink will first build a 15-square-mile Wi-Fi network to test the equipment and service.

■ Citing the growth of broadband, triple play, Ethernet and storage-area network services and the resultant strain on metropolitan networks, **Meriton Networks** last week announced the acquisition of **Mahi Networks,** a maker of reconfigurable optical add/drop multiplexers. ROADMs were the missing piece in Meriton's arsenal of metropolitan optical systems. The company makes optical switches, multiplexers, and network management and planning systems for metropolitan access, edge and core applications. Meriton's systems integrate optical ADM functionality with wavelength switching. Meriton was recently selected, along with partner Fujitsu, as a supplier for BT's $19 billion 21st Century Network project. Meriton just landed a third round of funding for $54 million, more funds than the company accumulated — $46 million — in the first two rounds combined.

Qwest touts new IP offerings

BY JIM DUFFY

Qwest last week said it has revamped its iQ Networking business IP network and service portfolio to address user requirements for intelligent transport, dedicated Internet access, security and service quality assurance.

Previously separate service networks for frame relay, ATM and dedicated Internet access are being collapsed into a single private IP MPLS core in an effort to migrate customers to managed Layer 2/3 VPNs provisioned over three port types: dedicated Internet access, private MPLS and private MPLS enhanced. The dedicated Internet access, frame and ATM "networks" now will run as services over an IP MPLS core instead of requiring dedicated facilities and back-end operations.

To date, dedicated Internet access service has been ported to the new platform and marketed as the iQ Networking Internet port.

Customers will feel the transition to iQ Networking through new contracts and a new user interface. They do not have to change customer premises equipment or ports, and for dedicated Internet access customers there is no change in the price of the service, Qwest says.

"It's a smooth transition," says Martin Capurro, senior director of global data and IP product management for Qwest. "We've spent a lot of time to make it work."

Though dedicated Internet access customers have already switched, frame and ATM users might not be ready to switch contract "vehicles" for the private MPLS and private MPLS enhanced services, Capurro says. For those customers and for those needing minimal disruption in migrating, Qwest's existing IP-enabled frame and ATM services have been positioned as stepping stones to the iQ-based services.

Currently, private MPLS and private MPLS enhanced services are Layer 3 VPNs. VPLS-based Layer 2 VPNs are intended for delivery in mid-2006, Capurro says.

Nearer term, Qwest is looking to add another level of QoS to the iQ Networking service this quarter. The carrier plans to offer a new QoS queue to support applications requiring more than a mid-tier "silver" treatment but below a premium "gold" quality.

Qwest also is extending the reach of its iQ Networking services globally through an agreement with BT Infonet. It will let Qwest reach 240 countries with the service and potentially enables BT Infonet to offer services domestically over Qwest facilities.

This extended reach will support standard network-based service-level agreements (SLA) with general availability slated for late December, Capurro says. End-to-end SLAs are targeted for February.

Qwest also offers the option of having the carrier install and manage new Ethernet CPE for iQ Networking based on Adtran, Cisco and Tasman Networks routers. ■

EYE ON THE CARRIER
Johna Till Johnson

Hints for selecting your service providers

With all the churn and chaos in the carrier market these days — not to mention the plethora of new technologies and services — telecom managers might wonder how to select service providers. Here are a few tried and tested recommendations:

● Don't be shy about issuing a request for information (RFI). It might seem as though issuing an RFI creates extra work for your team, but it can be a critical first step. The process helps to uncover your organization's business and technical requirements, and the document provides helpful context to service providers.

Finally, responses to the RFI can spark ideas. A good RFI is as the name implies: a concise statement of your business requirements together with a request for information on how service providers would position their offerings to meet your needs.

● Create a matrix RFP. Once you've received the RFI responses, you'll have a better idea which services you're looking for (IP Centrex? MPLS?). The next step is to issue an RFP for those services.

The most succinct and effective way to do that is via the "matrix RFP": List your service requirements down the side, and the geographies in which you need those services across the top. For example, you might need wireless voice and data services just in North America but broadband WAN services globally. Ask carriers to bid on any services and any geographies they feel they can serve effectively.

● Don't overlook third-party or specialized carriers. These days, with Google operating a Wi-Fi network and eBay buying VoIP provider Skype, the very definition of a "service provider" is getting blurry. Although as an enterprise telecom manager, you're not likely to turn to Google or eBay for your communications requirements any time soon. It's definitely worth the effort to look at carriers that specialize in addressing your business requirements.

For example, extranet providers such as Savvis Communications specialize in providing optimized transport for financial and other applications. Providers such as Internap Network Services focus on application acceleration. And players such as Megapath provide managed access for remote offices and telecommuters. Cast the widest net possible.

● Expect to educate providers. One of the ironies of the rapid pace of technical change is that companies often know more about how new technologies can meet their needs than the service providers offering them. A case in point is VoIP. Many service providers still are taking their time with rollouts, despite growing enterprise demand. If you think a particular technology might be a fit, demand it.

● Stress support requirements. One of the first casualties of the telecom chaos is top-tier support. Don't assume providers will automatically meet your needs here — specify your requirements for response time, escalation procedures and the like.

Johnson is president and chief research officer at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.

Virtela monitors, manages customer-owned devices

BY TIM GREENE

Virtela has announced a service for monitoring and managing customer-owned networking gear so businesses can offload some IT chores while keeping control of equipment.

Called Remote Monitoring & Management (RMM), the service covers LAN, wireless LAN and WAN gear, security equipment, VoIP devices and servers.

Under RMM, customers choose what devices they need help with and turn over monitoring, management or both to Virtela. This provides a potentially large savings by reducing staffing needs, the company says.

Virtela's main line of business is providing VPNs over a redundant backbone network that is pieced together using bandwidth on networks owned by many wholesale providers. This gives the company an international staff in many countries, potentially giving RMM customers access to local help, says Daniel Golding, a senior analyst with Burton Group.

Because Virtela set out to manage VPNs, including the customer-site gear, it is prepared for monitoring and managing large numbers of customer devices. "It's non-trivial to do this well," Golding says. The platform the company developed to do this also is well suited to the RMM service, he adds.

This type of service is generally provided by systems integrators such as IBM that try to negotiate complete outsourcing deals with customers as opposed to farming out portions of the management, Golding says. Until RMM, Virtela was similar in this regard.

RMM is an outgrowth of Virtela's managed service offerings in which it supplies the hardware it manages, and uses the same network operations and security centers as the other service. Before, customers had to accept a fully managed service that included Virtela engineering and provisioning. "Unbundling the management and monitoring from the provisioning is long overdue," he says.

Customers can access data about their network via Virtela-View portal to a network operations center to see reports and to manage devices themselves if, for example, they want to change the configuration of a firewall. The service monitors the status of devices, and sends notifications of failures and violations of set thresholds.

Virtela will contact service providers that supply access lines if it determines network problems are with the provider. RMM also handles software updates, and has a process for authorizing configuration changes to devices that ensures only changes authorized by customers are carried out.

Pricing depends on the number, type and size of equipment, and whether it is just monitored or monitored and managed. Monitoring pricing, for example, ranges from $40 per month for a small LAN switch to $350 for a security device. Virtela also charges a $100 to $500 per-device start-up fee that varies depending on the complexity of the device. ∎

You need a darn good reason

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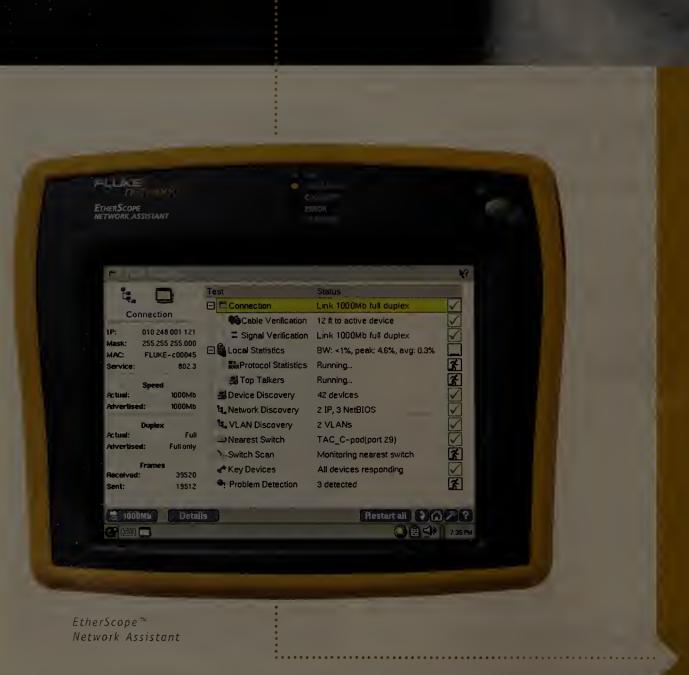
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TECHNOLOGY UPDATE

■ AN INSIDE LOOK AT TECHNOLOGIES AND STANDARDS

802.1AE plan aims to safeguard LANs

BY ALLYN ROMANOW

Because networks are vulnerable to configuration errors, miswiring and malicious attacks that can disrupt enterprise and service provider operations, it is essential for companies to apply multiple security mechanisms to protect their data, applications and network functions. The forthcoming IEEE 802.1AE standard helps prevent disruptions to Ethernet networks by protecting LAN devices from unauthorized communication.
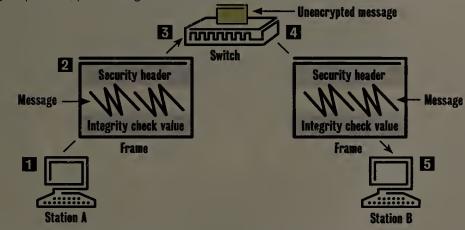
The IEEE 802.1 Security Task Group is developing a suite of protocols to secure LANs. The principal one is IEEE 802.1AE Media Access Control Security (MACSec), which integrates security protection into wired Ethernet to secure LANs from attacks such as passive wiretapping, masquerading, man-in-the-middle and some denial-of-service attacks. MACSec is in the final stage of standardization and is expected to be published in early 2006.

MACSec helps assure ongoing network operations by identifying unauthorized stations on a LAN and preventing communication from them. It protects control protocols that manage bridged network and other data through cryptography techniques that authenticate data origin, protect message integrity, and provide replay protection and confidentiality. By assuring that a frame comes from the station that claimed to send it, MACSec can mitigate attacks on Layer 2 protocols.

The proposed standard safeguards communication between trusted components of the network infrastructure by providing hop-by-hop security. This distinguishes it from IPSec, which protects applications on an end-to-end basis. Network administrators make use of MACSec by configuring a set of network devices to use the protocol.

When a frame arrives at a MACSec station, the MACSec Security Entity (SecY) decrypts the frame if necessary and computes an integrity check value (ICV) on the frame and compares it with the ICV included in the frame. If they match, the station processes the frame as normal. If they do not match, the port handles the frame according to a preset policy, such as discarding it.

Web caching and network traffic management work because data is in the clear as it passes through LAN stations, making packet inspection possible. On egress, the SecY computes and appends a new ICV to the frame and encrypts it, if desired, before sending it out.

802.1AE provides encapsulation and the cryptography framework for Ethernet protection. It requires supporting protocols for key management, authentication and authorization. To meet this need, the IEEE is defining an additional standard, 802.1af MAC Key Security, an extension of 802.1X that manages short-lived session keys used to encode and decode messages. An initial key, or master key, is typically obtained by an external method such as 802.1X and IETF's Extensible Authentication Protocol. A third related protocol under development is 802.1AR, Secure Device Identity, which ensures the identity of the trusted network component.

The MACSec standard chooses to use an authentication and encryption cipher, Galois/Counter Mode (GCM) for AES 128, a mode of operation approved by the National Institute of Standards and Technology. GCM can be used for message integrity plus encryption or for message integrity alone. GCM-enabled encryption easily scales up to multigigabit line rates in economical hardware.

MACSec does not take the place of 802.11i, the security protocol for wireless LANs. Nor does it supplant the need to protect applications with end-to-end security protocols. MACSec's focus is on securing network operation.

Romanow is a technical leader for Cisco. She can be reached at allyn@cisco.com.

HOW IT WORKS: 802.1AE

802.1AE Media Access Control Security (MACSec) secures traffic on a hop-by-hop basis, protecting LAN devices from unauthorized communication.

1 Station A uses a cryptography key, pre-arranged with the switch, to encrypt a user data message. Station A calculates the integrity check value and appends it to the frame.

2 Station A encapsulates the frame with a MACSec header and sends it to the switch.

3 The switch receives the packet and decapsulates the frame. It then calculates an integrity check value for the received frame, and decrypts the message using the key shared with A.

The switch checks whether the received integrity check value from the packet is the same as the integrity check value it calculated.

If the integrity check values don't match, the switch discards the packet; otherwise it processes the data.

4 The message is in the clear at the switch. The switch follows Steps 1 and 2 using the cryptography key it previously established with Station B.

5 Station B receives the frame following Step 3, using the key it established with the switch to decrypt the message.

Ask Dr. Internet   By Steve Blass

What is the Piggy Bank Semantic Web browser extension for Firefox?

Released by the SIMILE Project (http://simile.mit.edu), Piggy Bank is the Semantic Web browser extension. The Semantic Web initiative has defined a standard data model called Resource Description Framework, useful for organizing content on the Web independent of formatting. Data represented in RDF is easier to reuse than information contained in standard HTML pages. Piggy Bank is used to extract information from existing Web pages and then store it using RDF. If a Web page already has links to RDF information, Piggy Bank simply retrieves that information; otherwise, it employs custom software to extract the RDF data from the page.

For a copy of Piggy Bank, go to www.networkworld .com, DocFinder: 9230 using Firefox and click the 'Get Piggy Bank' button. Add the download site to the list of sites allowed to install software in Firefox, accept the prompt to install the unsigned download and restart the browser. When Firefox restarts, follow the prompts to set up your Piggy Bank. From there, you can browse the Simile site using Piggy Bank to familiarize yourself with the system. Piggy Bank works well to collect RDF content from other sites and stores it locally for reuse. Gathering RDF data from older Web sites requires screen scrapers to filter the data. Some examples are provided, as are screen-scraper development guidelines.

Blass is a network architect at Change@Work in Houston. He can be reached at dr.internet@changeat work.com.

Connecting existing phones to VoIP

GEARHEAD
INSIDE THE NETWORK MACHINE

Mark Gibbs

Let us start with a question that arose while we were testing USB drives: Does anyone know how to turn off the stupid Windows alert that says "This device can perform faster if you connect it to a Hi-Speed USB 2.0 port"?

This is shown when you plug a USB 2.0 device into a USB 1.1-compliant port, and it is a really stupid message if you don't, in fact, have a USB 2.0-compliant port, which is something Windows can easily determine.

Another amazingly dumb message we got when we were trying to view an unformatted USB drive with Windows Explorer was "Volume information for this disk cannot be found." OK, we have no problem with the message so far, but that was followed by "This may happen if the disk is a 1394 or USB device on a Windows 2000 machine."

What this alert really says is that the Microsoft engineers couldn't be bothered to test which operating system they were running on and apparently figured that a generic but useless message would cover enough ground so they could get on to a more interesting project.

Anyway, this week, more VoIP, specifically devices to VoIP-enable existing phones.

The first of these is the Internet Phone Wizard (IPW) from Actiontec, which is designed to provide access to two lines: A VoIP line using Skype and an optional plain old telephone service (POTS) line (www.networkworld.com, DocFinder: 9231).

The IPW measures about 4.5 by 3.25 inches by 1 inch and has three ports — two RJ11s for an incoming phone line and telephone handset, and a USB port to connect to your PC (note that the IPW is powered by the USB port — in other words, it doesn't need a power supply, aka a wall wart).

Installing the required USB drivers is straightforward (the IPW runs only on Windows 2000 and XP so far).

Calls can be made and received using either line and you can put either line on hold to take a call on the other.

The IPW is more comfortable to use than the typical Skype PC headset and that makes it worth getting if you are a Skype user, even if you don't use it with a POTS line.

The device is more or less flawless, except that it didn't work as an incoming line to our Siemens Gigaset two-line telephone. We have yet to find out why but suspect the signal-voltage levels generated by the IPW are too low.

This is a great device and at $70 is reasonably priced.

Our other VoIP device is the PhoneGnome from TelEvolution (www.phonegnome.com).

Like the IPW, the PhoneGnome handles a POTS line and a VoIP line, but rather than being tied to a single VoIP service the PhoneGnome works with any Session Initiation Protocol (SIP)-based provider. The PhoneGnome provides a SIP service and a gateway to other SIP providers.

But you can't use the PhoneGnome with Skype, because Skype uses a proprietary protocol (see DocFinders: 9232 and 9233). Also note that while Vonage is a SIP service, you also can't use PhoneGnome with it because Vonage doesn't allow gatewaying with any upstart VoIP providers.

The PhoneGnome is roughly the same size as the IPW but requires a wall wart. Also, unlike the IPW, the PhoneGnome doesn't require software or, for that matter, a computer. The ports on the PhoneGnome consist of two RJ11s for line in and handset, and an RJ45 for a broadband connection.

One disappointment: the PhoneGnome won't initialize without a POTS line!

The PhoneGnome comes with lots of useful features, including a built-in speech generator to tell you status and configuration details, voice mail to e-mail and telemarketer blocking. If you want to call regular POTS lines, outbound calls are priced comparably to Skype's service. At $120 PhoneGnome provides an interesting, sophisticated and powerful single-line, standards-based VoIP service.

Of course, if your broadband connection stinks, the VoIP service will be disappointing. Guess what next's week topic will be? Wild surmise to gearhead@gibbs.com, and if you're feeling bloggish, check Gibbsblog (www.network world.com/weblogs/gibbsblog).

CoolTools

Quick takes on high-tech toys. Keith Shaw

The scoop: Vaio VCG-V620G, by Sony, about $2,700.

What it is: The Sony Vaio V Series are all-in-one PCs that combine an LCD screen with a Windows PC and speakers to create one device instead of two or more (such as monitor and speakers). The V620G model we tested included a 20-inch widescreen display, integrated wireless LAN (802.11b/g) and a TV tuner card with a slew of bundled personal video recorder (PVR) software, so the PC can double as a TV and recorder.

On the PC side, the V620G includes an Intel Pentium 4 processor (3.4-GHz with 1M byte of Layer 2 cache), 1G byte of RAM, a 250G-byte hard drive and Nvidia Force FX Go5700 memory card with 128M bytes of RAM. A DVD+R Double Layer / DVD+/-RW drive means any TV shows you record with the PVR can be easily transferred to a DVD. Other ports and features include four USB 2.0 ports, a 10/100 Ethernet port, a V.90-compatible fax/modem port, two four-pin i.Link (Sony's version of IEEE 1394) ports, an optical out port and S-Video input. An integrated media card slot can read Memory Stick, Memory Stick Pro and Memory Stick Duo cards, making for easy transfer of digital photos or music files to the device. A PCM-CIA card slot is situated in the side of the device.

Why it's cool: Sony may not have invented the all-in-one PC concept, but it certainly will drive the concept forward to the masses. The V620G is so beautiful to look at that you almost don't want to set it up — you want to place it on a mantle. Hooking it up is as easy as plugging in the power cord. There's no separate receiver for the wireless keyboard and mouse; even that is integrated. Turning on the WLAN is as easy as flipping the switch. You have to configure the WLAN, but that's done in Windows, as occurs in a normal PC.

The picture quality from the LCD screen is outstanding, and the sound from the integrated speakers blew us away, whether it was listening to MP3s or watching a DVD. Sony also does a great job with its bundled applications for the TV tuner card. The company truly integrates applications with the PC, as opposed to other systems that just throw a bunch of applications together. Sony understands the concept of converging multimedia applications (music, photography and television/video) and putting it into a desktop PC. In addition, it has done an outstanding job of merging an LCD with PC and speakers in a way that can save space.
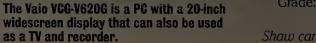
Some caveats: Not much of a complaint, but tracking down all the ports was a bit of a chore. The system hides a lot of the ports underneath the flat-panel monitor, and accessing them involves sliding open a back panel. If you like to add and subtract devices to the PC on a regular basis, accessing the ports becomes more difficult. If you are a set-and-forget type, you'll have no problem connecting the devices and leaving them alone.

The $2,700 price tag is a bit steep, but when you dig deeper into the specifications, it's a decent value — remember, you're combining a 20-inch LCD with a high-end computer, speakers and PVR. And like every other all-in-one device, if something happens to one of the components (such as bad screen or disk drive), the whole system goes down.

Grade: ★★★★★ (out of five)

The Vaio VCG-V620G is a PC with a 20-inch widescreen display that can also be used as a TV and recorder.

Shaw can be reached at kshaw@nww.com.

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On Technology
John Dix

Grid benefiting early adopters

The chairman of the Global Grid Forum Mark Linesch last week opened the GridWorld conference in Boston spelling out the promise of grid. The new world is dynamic vs. static, shared vs. trapped in silos, virtual vs. dedicated, automated vs. manual and oriented around services vs. applications.

While academia is still the foundation for grid, Linesch says major grid deployments are happening. On the implementation continuum from early deployments to broad adoption, he estimates corporations are approaching the middle stage where momentum starts to build.

The drivers are varied but include getting more out of infrastructure investments, saving money and the need for higher performance. Not surprisingly, the early proponents are in industries that have the toughest problems to solve, such as the financial and life science sectors.

Robert Cohen, a fellow at the Economic Strategy Institute, says it takes pharmaceutical companies 20 years and costs $1 billion to develop a new drug, in part because 80% of new drugs go through clinical trials.

Companies can dramatically reduce costs by using grids to do more analysis in the virtual world, with the goal being to conduct trials on only 50% of the most promising drugs, and ultimately maybe only 20%. Such work is immensely compute intensive, and grids are proving to be the answer.

Cohen estimates that pharma's adoption of grids will collectively result in 15% productivity gains and a 10% reduction in costs from 2003 to 2010.

Johnson & Johnson is one company already reaping rewards. Jeffrey Mathers, director of strategy and delivery in Pharmaceutical R&D Information Management, says the grid his group deployed last December now consists of 1,000 CPUs (half Windows, half Linux), supports six production applications, six regional locations and four business units involved in everything from drug discovery to clinical modeling and simulation. On any given month 16,000 to 20,000 GHz hours of processing is consumed.

"We have delivered good performance and proved grids are good for cost avoidance, but what I'm most proud of are comments from researchers who say we couldn't do the research we're doing today if the grid wasn't there," Mathers says.

In the financial sector, Cohen says some banks have found they can move $500 million from credit reserves to operating capital because grids enable them to better forecast credit risk. Being able to run the hugely complex jobs faster means they can run them more often and get better insight into current exposures.

Hurdles to broad adoption include software licensing restrictions, questions about security and cultural issues about sharing resources, but the demonstrable benefits make grid hard to ignore.

— John Dix
Editor in chief
jdix@nww.com

Opinions

Using Mac to run Windows

Regarding Kevin Tolly's column "Closing the door on Windows" (www.networkworld.com, DocFinder: 9221): Tolly didn't close the door on Windows. He switched to Mac ... to run Windows.

If I suggested to Tolly when he was running Windows to load all his volatile stuff into a virtual PC partition and run it there, he would have laughed at me and called me crazy. But that is just what he did on the Mac. He spent time and effort to virtualize his environment, including going back to older versions of applications.

So Tolly spent time and effort to run Windows, on a Mac. He could have done that under Linux, or even on a PC. Perhaps the title of his column should read: "Closing the Door on Windows, but opening a Window in a Mac."

Jason Short
President
Emerald Technology
Mount Dora, Fla.

Closing the door on Windows? Really? Basically, what I got from Kevin Tolly's column is that now that he is on a platform that he really thinks he likes, he is spending most of his time figuring out how in the dickens he is going to get that Windows environment tucked back in and running inside his new Apple. He hasn't walked away from Windows, he has opted for the wizardry of a slow emulation model as his new world, which in the end will be a whole Windows world framed by a Mac GUI. That's hardly closing the door.

Richard Fink
Owner
Computer Solutions
Mill Valley, Calif.

In his column, Kevin Tolly states that his PowerBook gets only a two-hour battery life. He must be beating it to death constantly, or he has his energy settings set to extreme levels. I get five to six hours of battery life on my iBook.

Try lowering the screen brightness a few ticks. The times I've gotten six hours were on minimum brightness and not using the optical drive — but connected to 802.11g the entire time.

Shawn Milochik
Senior programmer analyst
Godiva Chocolatier
Reading, Pa.

IPv6 is needed

Johna Till Johnson's mea culpa on her tenfold error on the bandwidth cost of IPv6 ("A revised look at IPv6," DocFinder: 9222) is hardly convincing as it is combined with a continued adamancy that virtually no one needs IPv6. Among the many points being overlooked is that the greater addressing capabilities of IPv6 create more opportunities for competition and creative service provisioning. Also, network providers forced by the market to adopt the standard will be less able to inflict degradation on the services and traffic flow of competitive carriers and thus be more susceptible to competitive responses. This is a good thing for innovation and all users, although existing network owners may believe that such a robust and even playing field puts them at a disadvantage. Congress is right to inquire as to why IPv6 adoption is going so slowly and should extend the inquiry to include the network industry.

Brian Savin
Greenwich, Conn.

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

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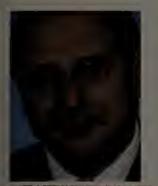
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AFTER YOU'RE DONE RAKING THE LEAVES, WASH MY CAR, WALK THE DOG, FOLD THE LAUNDRY, TAKE OUT THE TRASH, AND SCRUB THE FLOORS...

WORLDCOM SETTLES WITH INVESTORS

EBBERS

Why VoIP over IPv6 will be better

INFRASTRUCTURE INSIGHTS
Dan Minoli

Second-generation VoIP networks have achieved a fair degree of commercial success. Companies are using the technology to save money on trunking costs and for functional enhancements such as mobility, presence-related functions and unified messaging. VoIP networks are beginning to support roaming from Ethernet-based phones to cellular service. Large companies are using VoIP for contact center support, particularly for hosted automatic call distribution capabilities and virtual contact centers (where agents are distributed throughout a large geographic area). Carriers are deploying VoIP services to generate new revenue to replace the revenue lost from traditional TDM services.

Yet two fundamental problems preclude the unconstrained scalability of VoIP to a large-population base along with guaranteed "industrial-grade" service levels. The first problem is lack of de facto intrinsic QoS in many IP networks, both at the carrier and enterprise levels. The second problem relates to end-to-end integrity of the VoIP signaling and bearer paths. It is difficult to carry VoIP packets across firewalls, not only because of protocol considerations, but also because of network address translation (NAT) issues. Security concerns, such as eavesdropping and hacking, are another potential problem. Next-generation VoIP networks based on IPv6 are now on the drawing board to address these issues, specifically scalability and commercial-grade reliability. These networks are based on IPv6.

The large voice carriers could claim that with TDM, anyone in the world could call anyone else, any time, anywhere, and get a good telephonic

It is only a matter of time before a transition to IPv6 will occur worldwide.

connection. Currently, this is an unachievable goal for the VoIP industry. IPv6 offers the potential for achieving the scalability, reachability, end-to-end interworking, QoS and commercial-grade robustness necessary if VoIP is to replace the TDM infrastructure worldwide. Specifically, IPv6 deals with the QoS and NAT problems mentioned above.

NAT-based accommodation is a short-term solution to this anticipated VoIP growth; a better solution is needed. NAT techniques make the Internet, applications and devices more complex, which implies a cost overhead. IPv6's benefits include expanded addressing; streamlined header format and flow identification; autoconfiguration ("plug-and-play"); and more robust mobility, multicast, QoS and security support.

In IPv4 there are about 4 billion different addresses, if all combinations are used. However, not all IP addresses can be used because of the fragmentation of the address space, which historically has been allocated in large contiguous blocks, hindering optimal utilization. IPv6 tackles these problems by creating a new IP address format, so that the number of IP addresses will not run out for several decades or longer. IPv6 has 128-bit addresses and the number of available unique node addresses is around 3.4×10^{38}.

IPv6 is now gaining momentum globally, with a lot of interest and activity in Europe and Asia. It also is gaining traction in the U.S., and it is only a matter of time before a transition to IPv6 will occur worldwide.

Minoli is an adjunct professor in the Stevens Institute of Technology's graduate school and author of several books about enterprise networking. He can be reached at minoli@att.net.

Curmudgeons of the world, unite

YANKEE INGENUITY
Howard Anderson

I have just about had it. Every technical product I own has conspired to make me feel stupid and old.

Yesterday my Nextel phone suddenly started answering for me — my kid told me that I had inadvertently activated the Auto Answer feature. I didn't even know I had an Auto Answer feature ...and of course I had no idea how to turn it off. My sleek new Motorola Razr has an instruction manual that is 101 pages. I haven't read a 101-page book in five years.

I am tired, tired, tired of products that are smarter than I am and delight in proving how inept I am. I want a whole new set of products. Products for those of us over 50 -- with simple instructions, fat buttons and our own help line manned by people over 50 who will not talk in jargon.

Damn it, technology people, we elder statesmen have all the money, we have the time. ... Why do you continually put in features that we will not use within our (short) lifetime? When will you people realize that we are a major market unto ourselves? I want a logo on products that have been tested by the AARP, that are deemed safe for Republicans, that have Alan Alda as their spokesman.

When you put in all these features that we will never use, we feel ripped off because we are paying for functionality that serves us no earthly good. No, I am not going to record streaming video on my cell phone. No, I am not going to record my favorite 100 songs and no, I am not going to be shooting the remake of "Apocalypse Now" on my iPod nano. Just leave us alone with our dotage and some technology that actually works.

Years ago, I ran a major conference at the Taj Mahal hotel when it first opened. Donald Trump comp'd me with a beautiful room with a sunken bathtub and mirrors on the ceiling. My fantasy — except my eyes weren't good enough to see what was going on. Instruction manuals are written in four-point type so only an eagle could read them. My memory isn't so good, so I have to

We elder statesmen have all the money, we have the time. ...When will you people realize that we are a major market unto ourselves?

be retrained every morning on the features I learned yesterday that I will never use.

I have a home entertainment system so complex that I have to have the guy who installed it over every month to show me how to make it work — at $80 an hour. I have remotes for my remotes. And if someone inadvertently hits the wrong button, I am infinitely screwed, as I am 8 1/2 miles out of town on a dirt road. You try and communicate with DirecTV, which seems to have its service desk on Mars. How am I supposed to know which satellite I am honed on? And stop sneering at me!

My computer mocks me. My printer conspires to have paper jams when it meets with all my other high-tech toys and decides that I haven't had enough pain. Did I mention my car? It now has Bluetooth and sometimes for no apparent reason refuses to let me open the door. Or suddenly locks up the instrument panel when I turn on satellite radio.

There is a conspiracy out there and I am not taking this lightly. My watch, which tells me the depth I am diving, suddenly thinks I want to know this information in German. The GPS in my car seems to take perverse glee in calling me names ("Turn immediately left, Howard, you dummkopf!")

I put in an invisible fence for my dog and now my car refuses to leave the yard. It's like there is a union job shop action where the devices own me instead of my owning them. My iPod has been sent back to Apple so often it thinks Steve Jobs' home is its home.

I am giving every one of my toys final notice: Shape up and stop this torture! I am mad as hell and I am not going to take it anymore.

Anderson is the founder of The Yankee Group and YankeeTek, and a co-founder of Battery Ventures. He lectures on technology at the Massachusetts Institute of Technology and speaks on technology subjects at meetings across the country. He can be reached at handerson@yankeetek.com.

The ABC's of SOA

How service-oriented architecture can transform your business processes.

"We were able to implement several major business initiatives within extremely short timelines because of our ability to reuse existing functionality."

Maja Vladika, Comdico Transportation Services

Definition:

1. *Service-Oriented Architecture* SOA is a software development methodology that encourages developers to share and reuse code.

2. SOA refers to any distributed application environment that emphasizes the following service-development practices: service virtualization, service reuse and service brokering.

Benefits:

1. SOA best practices help companies create more flexible, adaptable IT organizations.

2. Specific SOA benefits include faster application development, condsolidated and increased business-process consistency across applications that share common services.

Kobielus says:

"Enterprises can implement SOA without service-level management, but they would be foolish to do so for long."

Service-oriented architecture is an inescapable IT-industry buzzphrase. It's also a sprawling, eye-glazing abstraction that means many things to many people. In this Technology Insider, SOA guru James Kobielus analyzes the ROI of SOAs (page 56), defines key SOA concepts (page 58) and describes the SOA infrastructure (page 62). Go online for stories on what needs to happen for SOAs to take off (www.network world.com, DocFinder: 9929).

_THE INVASION

_DAY 3: The servers have taken over. We bought
so many affordable ones we can't afford the people
to manage them. How far does this sprawl spread?
Have they taken over the city? The planet?
Ma, have they gotten to you, too? (Must type
very, very quietly. They're L-I-S-T-E-N-I-N-G.)

The ROI of SOA

The more you reuse, the more you save.

BY JAMES KOBIELUS

Fundamentally, SOA is a development methodology that encourages sharing of remotely invocable application functions throughout networks. It's a way of doing more with less, where applications can be built more quickly and incrementally, with fewer lines of original code.

The upside of SOA is that the marginal cost of building new applications will continue to drop as the service-reuse rate climbs. The catch is that there's a significant ramp-up cost, because adopting an SOA means you're going to need to rethink many of your traditional approaches to application modeling, development, integration, deployment and management.

Kobielus says:

"SOA has, in industry discussions, been elevated from a mere approach to something resembling a religion. It is often portrayed as an all-pervading panacea, a golden force field that encompasses all good programming practices from Babbage to the present."

"I can guarantee there's a cheaper way to build your next product, but there's no cheaper way to build your next 20 products," says Christopher Crowhurst, vice president and principal architect at Thomson Learning.

Forrester Research analysts Ken Vollmer and Mike Gilpin report that SOA-based development can be twice as much as traditional approaches when viewed solely with respect of building a particular application component.

But when that application component is reused over and over, SOA becomes more than 30% more cost effective than traditional development approaches.

Cost savings

Many of the savings from SOA stem from its ability to consolidate silos of redundant application functionality and data throughout organizations.

Fewer software licenses and servers translate into cost savings in capital and operating budgets. Fewer redundant software components translate into less need for redundant programming

groups. Application consolidation onto fewer platforms reduces software lifecycle costs, which Gartner says can be six times greater than license costs.

However, SOA requires a significant upfront investment. Standard Life Group, an Edinburgh, Scotland, insurance company, maintains three SOA-implementing development groups with about 500 people, about half of whom are delivering SOA services and applications. A staff of seven manages their SOA-enabling distributed-application infrastructure.

On the plus side, "we've saved over £2.8 million in development costs over the past three years based on reuse of existing functionality within the service catalog," says Derek Ireland, group tech solutions manager.

The company currently has around 300 reusable services in its catalog. More than half of those services have been reused at least once and there have been a total of 361 instances of reuse. In addition, more than 40% of the company's back-end transactions are initiated through its SOA-based environment.

Other companies report hard and soft monetary paybacks from SOA. "We've seen huge savings in Oracle [database] licenses," says Jayson Minard, CIO of Abebooks in Victoria, British Columbia, because of the server consolidation that has accompanied their SOA push. At the same time, he says, "we've also seen savings on the team side, due to having more development staff bandwidth for new projects. Development group efficiency is going up."

Another cost advantage of SOA is that by stressing platform-agnostic service virtualization companies can choose the most cost-effective, best-of-breed application components for particular functions.

"With SOA, you can go the vendor's SOA route," Minard says.

"Or you can take the approach that

"We've saved over £2.8 million in development costs over the past three years based on reuse of existing functionality within the service catalog."

Derek Ireland, group tech solutions manager Standard Life Group, Scotland

we did. First, we identified the features and benefits we were looking for, such as flexibility, decoupling, asynchronous communications and service boundary partitioning. Then we identified best-of-breed products that addressed those requirements. We evaluated 14 products, including commercial offerings and open source packages. We tested interoperability among those products, and eliminated the ones where the vendors differed from us in their philosophical approach to SOA. In that way, we've steered clear of vendor lock-in," he adds.

Speed daemons

Speedier SOA-based application development can also contribute to a company's financial well being and competitive agility. "Applications that used to take two weeks to develop now take two days," Minard says.

Faster development allows companies to respond more flexibly to new competitive challenges. TSYS Prepaid is a

hosted service provider that processes prepaid debit cards on behalf of financial institutions. Its SOA-based applications are the basis for revenue-producing services. "Accelerated development allows us to recognize revenue more quickly," says Carl Ansley, the company's CTO.

Soft savings

Then there are the savings that are difficult to quantify. How can you put a number on improved business adaptability and agility? Or on improvements in application consistency?

Or on reductions in the risk to interoperability when you make changes to application code that's been virtualized, abstracted and loosely coupled in keeping with SOA principles? Or enhancements to application usability, scalability and performance that come from reliance on shared services that have been built and optimized by development centers of competence within your organization?

_DAY 30: It's gotten worse. I'm trapped in a maze of our own creation. Oh, the irony. I need an answer. (P.S. I'm frightened.)

_DAY 31: I need IBM Systems with virtualization technology. Helps you manage your servers and storage, each from a single view, so you can deploy resources on the fly. Lets you scale up and out quickly. I will achieve control. I will be a big hero. They will call me Ned. Ned, Champion of Simplicity.

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Three steps to SOA nirvana

BY JAMES KOBIELUS

Here's a primer on the three core concepts behind service-oriented architectures:

1. Service virtualization

A service is a reusable chunk of code that can be invoked by other developers through a published metadata interface, known as a service contract.

"SOA requires that you stay at a high level in defining these reusable business services, rather than drill down too quickly into application code," says Christopher Crowhurst, vice president and principal architect at Thomson Learning, a Stamford, Conn., business unit of Thomson Corp. that provides technology and assessment services worldwide.

Under SOA, each service should have a recognizable business function that plays a clear role in multiple applications, adds Derek Ireland, group tech solutions manager at Standard Life Group, an Edinburgh, Scotland, insurance company. "Examples of these reusable business services in our SOA include 'provide pension valuation,' 'verify identity,' 'provide bank details,' 'maintain address' and 'produce statement.'"

Currently, we have around 300 business services in our SOA service catalog," Ireland adds. "These services are high-level business functions that abstract away from the underlying complexities of our principal platforms: WebSphere Application Server, WebSphere Business Integrator, WebSphere MQ IMS and .Net. Our SOA software framework allows the development teams to concentrate on the business aspects of the application under development," he says.

Another core SOA tenet is that services should have stable, well-bounded sets of functionality, so a change in the service's underlying implementation won't disrupt interoperability with existing consumers of that service.

"SOA is an approach for defining clear boundaries between business and technical services that need to be decoupled," says Jayson Minard, CIO at Abebooks, an online book marketplace in Victoria, British Columbia.

Typically, stable service contracts are coarsely detailed, which means they describe the interface to an entire business process or a substantial subprocess, rather than to the details of a particular platform's object model, classes and APIs.

But users are taking whatever approach best meets their particular needs. For example, Abebooks' SOA is based on the need to define fine-grained business services that correspond to particular business-to-business technical-integration connections.

Abebooks uses SOA practices to de-couple the integration logic through which its Web sites connect with business partners.

More than 13,000 booksellers from 48 countries list their books on several Abebooks sites, and major online booksellers, such as Amazon and Barnes & Noble, have outsourced their used-book operations to the firm.

"We have a lot of legacy Java code, which we need to continually tweak to address the data translation and other functions specific to various partner integrations," Minard says. "Without clear boundaries among various code segments associated with partner integration, we would risk disrupting global interoperability with all of our partners every time we changed, say, a data-translation routine for one partner."

Maja Tibbling, application architect with Con-Way Transportation Services in Portland, Ore., adds, "Services can be fine-grained, such as a logging service, or coarse-grained, such as those services that contain an entire business process. Services should be defined at whatever granularity best promotes their reuse."

Con-Way's ongoing SOA initiative began in the late 1990s as a way to implement component-based development of mainframe applications. "Since then, we have successfully ventured into the [Java 2 Platform Enterprise Edition] world and have deployed many business applications in the middle tier with Web-based front ends. So the next step [for SOA] was consuming the same back-end shared services through vendor-provided Java proxies to the mainframe."

Con-Way also has implemented SOA-based component partitioning on many midtier J2EE-based and Web-accessible applications.

How does it work?

Under SOA methodology, developers write new applications by looking up the requisite functionality in online service registries, plugging those services' APIs into their code, and writing some fresh orchestration logic to tie it all together. Taken to its logical extreme, SOA can make software development a "connect the dots" exercise that greatly speeds up the process.

Some corporate IT groups take coarse-grained SOA to its logical extreme. "SOA for us is mostly providing a rational framework for distributed server connectivity between distinct application servers," says Adam Blum, director of server engineering at Good Technology, a Santa Clara, Calif., provider of wireless products.

"For example, our e-mail servers behind the customer company firewall, which connect to Microsoft Exchange and forward e-mail, need to connect to our hosted router for forwarding traffic and to our Web store to validate purchased licenses. We do this through a set of XML messages. An important aspect of SOA for us is expressing common abstractions [users,

SOA and Web services:

Some argue that a true SOA implementation requires the full Web services stack, including Web Services Description Language (WSDL), Simple Object Access Protocol (SOAP), Universal Description, Discovery and Integration (UDDI).

But users today are implementing SOAs under various platform and middleware environments, programming languages and development tools. However, Web services is the preferred environment for SOA.

customer companies, messages, licenses, server information] in common ways."

2. Service reuse: The big payoff

Service reuse is where SOA pays off. Companies that make the most of SOAs train, encourage and reward programmers to reuse existing services — no matter who developed them — to the maximum extent possible.

In an SOA nirvana, programmers would write as little new code as possible when constructing new applications, and the only new code would simply orchestrate new interaction patterns among existing services.

Greater service reuse translates into lower costs and accelerated development cycles. "In 2004, we were able to implement several major business initiatives within extremely short timelines, because of our ability to reuse existing functionality and to protect existing consumers from the impact of changes to existing functionality," Tibbling says. "Our core business components such as Customer and Shipment offer services that every single application ends up using. This has allowed greatly enhanced time to market for subsequent projects."

In practice, service reuse depends on middleware that allows any service to interoperate with any other service over networks. Increasingly, Web services environments are the middleware fabrics of choice for SOA, leveraging WSDL, SOAP and other WS-* standards. But in SOA implementations, services are being shared, reused, orchestrated and invoked over a broad range of legacy middleware environments that interoperate in various ways.

"We chose XML, not necessarily Web services [for exposing application interfaces across our SOA environment]," Thomson Learning's Crowhurst says. "We transfer XML over HTTP, and XML over file transfer. We also do XML over message queuing transports for abstraction of application interfaces."

Con-Way Transportation runs SOA over a heterogeneous, evolving middleware environment in which Web services are still just a bit player. "We are using Tibco BusinessWorks to orchestrate asynchronous business processes in near real-time using [J2EE] ServiceLocator [patterns], but invoked from the integration infrastructure," Tibbling says.

Con-Way's XML Web services implementation is growing. Nevertheless, it also is given J2EE a growing role in its SOA. "Java Message Service is being used more and more," Tibbling says.

"As we upgrade our J2EE environment, we anticipate using MessageBeans as process triggers into the inte-

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TECHNOLOGY INSIDER SOA

SOA

gration layer," she adds.

Con-Way isn't the only SOA shop that has limited its use of Web services primarily to support external interoperability. "We've selected IBM Web-Sphere as our primary application server," Standard Life's Ireland says. "We also use Java as our principal development language, IBM WebSphere MQ Integrator as our [message-oriented middleware] integration platform, and XML as the markup syntax for all interoperability interfaces. . . . We don't see the advantage of using Web services and SOAP [in place of WebSphere MQ] for integration. But we will use SOAP when it's appropriate, such as for B2B integration."

3. Service brokering: Ads pay

Service brokering encourages reuse by allowing developers to "advertise" their programs' service contracts and other descriptive metadata in a shared online registry, repository or catalog.

Service brokering infrastructures take many forms and are often specific to particular middleware or platform environments. The UDDI standard defines a service-brokering environment for Web services.

The UDDI standard is part of the emerging world of Web services. Other common service-brokering environments include Common Object Request Broker Architecture Naming Service, Distributed Computing Environment Cell Directory Service, Windows NT Registry, Java Remote Method Invocation Registry and Electronic Business XML repositories.

If they wish, companies also can deploy a database management system as a service-brokering node for their SOA. "Our SOA environment includes a runtime business service directory that runs on IBM Universal Database/DB2 on a mainframe," Ireland says.

Abebooks has implemented a hybrid UDDI/LDAP registry architecture, according to company CIO Minard. "We've implemented an open source UDDI registry outside our firewall to publish external service interfaces that our partners can use to connect to our services. The external UDDI registry uses LDAP to do lookups of the master service directory that sits behind our firewall."

Platform-agnosticism is the essence of true SOA. Companies should take care not to introduce specific dependencies on WSDL, SOAP, UDDI or any other Web services standards or specifications. SOA implementers should treat Web services — and any other development, interoperability and operating environment — as implementation details.

Kobielus says:

"SOA is clearly a work in progress. Actually, SOA is a target state that many organizations may approach but never fully attain. It's all about achieving maximum reuse and minimum redundancy of services throughout complex, multiplatform distributed environments."

Kobielus is a senior technical systems advisor at EXOstar. He can be reached at james_kobielus@hotmail.com

TECHNOLOGY

SOA

Fuzzy math

SOA surveys come up with mixed results.

BY JAMES KOBIELUS

SOA is still a fuzzy concept to many corporate IT professionals, and it sprawls, in many people's minds, across a wide range of loosely related technologies and approaches.

According to a recent IDG Research Services Group survey, IT professionals are almost evenly split between people who claim some familiarity with SOA (52%) and those who admit they haven't a clue (48%). Likewise, the split was almost even between those respondents who reported strong confidence in SOA's long-term potential (55%) and those whose confidence was lacking or lackluster (45%).

IDG asked that same group of respondents to associate various phrases with SOA. The respondents ranked the most accurate SOA descriptor — "reusable applications" — fifth among the options given.

Respondents ranked "software as a service," "enterprise application integration," "Web services registries/repositories," and "frequent use of Web services" higher, even though those phrases don't directly articulate SOA's core meaning.

If popular understanding of SOA concepts is fuzzy, what's even fuzzier is any reliable data on who exactly is implementing SOA, with what degree of commitment, and at what level in the organization.

In that same IDG study, 28% of respondents stated that their companies are implementing SOA, with slightly less than half of those SOA implementers merely conducting pilot projects. Of those respondents who are considering SOA but don't currently have pilot projects, IDG found that only 22% are actively investigating SOA-based solutions over the coming year.

However, a recent Forrester Research survey of large North American companies reported that more than 70% of respondents have already implemented SOA. Forrester analysts say that by the end of 2005, 51% of midsize companies and 46% of small businesses will have adopted SOA, as well.

The problem is that the surveys don't get at how many of the people responding to these surveys are clear on precisely what they mean by SOA, and it's not clear how far along the respondent is on the long road to SOA.

Without a doubt, realizing SOA's full ROI will be impossible without the appropriate technical infrastructure and organizational commitment, operating hand in hand.

Tips for creating an SOA road map

• Gain a solid commitment from senior IT and business managers, based on such business benefits as accelerated development, reduced cost and greater business agility.
• Provide developers with the training, tools, guidelines and incentives necessary to get them thinking in SOA terms, and to discourage development of one-off and non-modular applications.
• Reorganize IT governance processes aimed at enforcing organizationwide adherence to SOA best practices.
• An enterprise SOA road map should incorporate the requisite philosophy, culture, practices, tools and infrastructure. The more of these road map components you've established in your organization, the closer you are to realizing the full ROI on your commitment to SOA.

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Go online for these stories on what needs to be done to make SOA a reality
• SOA standards remain a work in progress.
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• Vendors step up to the SOA plate.

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The SOA tool kit

The principal layers of an SOA-enabling infrastructure are service brokers, orchestration engines, message-oriented middleware environments and service-level management tools.

Brokering infrastructures encourage reuse by allowing developers to "advertise" their programs' service interfaces in a shared online registry, repository or catalog.

UDDI is the Web services standard, but companies have implemented service-brokering infrastructures on other platforms, such as database management systems.

Orchestration engines encourage reuse by allowing developers to build new services through workflow definitions that connect preexisting services. Developers often use graphical process-definition tools that allow them to specify orchestration tasks, dependencies, and routing and processing steps with flowchart icons. This approach also is called model-driven development. Once defined, these visual process models might be compiled into reusable rule definitions that control the execution of multistep interaction flows, such as those that involve complex transformation and routing rules, across heterogeneous platforms.

MOM environments encourage reuse by providing guaranteed-delivery, event-notification and publish-and-subscribe protocols that bind heterogeneous application endpoints into an enterprise service bus.

Abebooks has deployed Sonic Software's MOM products as the backplane for its SOA environment. "We deploy Sonic MQ everywhere in our intranet," says Abebooks' Jayson Minard. "Sonic MQ supports both asynchronous and synchronous calls between service endpoints and provides pub/sub, message queuing and event notification services. At the edges of our intranet, we use Sonic ESB to wrap shared services with Web services interfaces so that they can be called by our external trading partners."

Service-level management infrastructures encourage reuse by helping companies monitor, optimize, control and integrate their distributed application environments. A more common term for this functionality is Web services management (WSM) tools. WSM infrastructures help companies ensure the performance, reliability, availability, operational management, life-cycle management and security of end-to-end Web services within an SOA environment. However, a growing range of WSM tools also monitor and enforce service levels in environments that implement MOM and other middleware protocols, which is why the broader term "service-level management" is more appropriate than the middleware-specific term "WSM."

Thomson Learning uses Actional's SOAPstation WSM proxies to control XML-based interactions within their SOA environment, according to company Vice President Chris Crowhurst.

Companies can implement SOA without service-level management, but they would be foolish to do so for long. As SOA succeeds, companies will need to ensure 24/7 availability, guaranteed delivery and performance optimization across the service bus, spanning all service endpoints. But, just as important, your company will need to maintain an IT culture that encourages maximum service reuse, through a full slate of SOA-focused training, incentives, tools and practices.

Kobielus says:

"Until such a time as the industry converges on universal, comprehensive, stable Web services standards in various functional layers, Web services — as a complete SOA stack — will remain immature."

TROJAN HORSES

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E-MAIL NEWSLETTER SHOWCASE: WIRELESS IN THE ENTERPRISE

CTIA show faces reality of mixed mobile nets

BY JOANIE WEXLER

If last month's CTIA Wireless IT & Entertainment show had a theme, I would say it was heterogeneity.

There was a growing awareness that multiple mobile operating systems, client devices and carriers will be a fact of life in the enterprise. That can be chalked up to differences in user device needs, and diversity in coverage requirements across domestic and international geographies.

IT departments need ways to provide access from all these devices and locations to corporate resources. They need to centrally manage and secure smart devices that contain sensitive information. These requirements are motivating some vendors to act.

For example, the day before the CTIA exhibit floor opened, Palm and Microsoft announced that Palm would be licensing Microsoft's Mobile 5.0 mobile operating system to run on its Treo 600 and 650 smartphones. As a result, users will be able to choose between the PalmOS and Windows Mobile 5.0 operating systems. Mobile 5.0-enabled Treos, to be available for use on the Verizon Wireless EV-DO network in early 2006, would allow Treo users to connect to their corporate Exchange e-mail servers and deploy corporate applications written for Windows.

The move acknowledges that more handhelds need to support access to back-end corporate resources. The move gives Treo more of an enterprise play. Microsoft operating system-enabled devices do a good job of allowing access to Microsoft resources only. Research In Motion's BlackBerry, with its Enterprise Server, has been the only architecture letting users of handhelds access their full suite of back-end applications.

Good Technology announced that it would support the Palm-Mobile 5.0 devices with its centralized management, application-update and security software.

Meanwhile, Orative Technology explained that its presence management software is both device- and carrier-agnostic. Orative's software enables business users to screen voice calls based on caller identity, subject matter and the called user's availability.

CEO Paul Fulton says the software runs SSL encryption and single sign-on authentication, and corporate IT can centrally deactivate lost phones and erase sensitive information from remote devices.
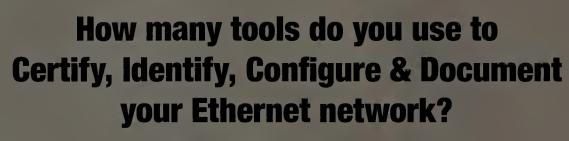
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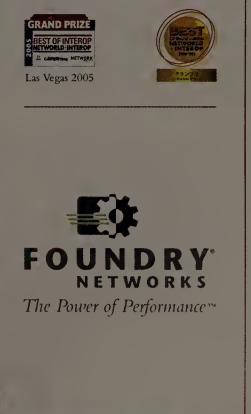
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What's missing in SMI-S?

BY MIKE KARP

The Storage Networking Industry Association's software management initiative specification is still in its infancy. It provides for discovery only, but no management.

SMI-enabled management consoles are only certified to discover host bus adapters, storage-area network (SAN) fabrics, storage switches and arrays. Tape drives, tape libraries, optical storage and other assets that might be SAN-attached are not yet incorporated.

At least one vendor has made some of its tape libraries discoverable through SMI-S, although SNIA hasn't certified this discovery on the SAN with any management consoles. ADIC's iPlatform libraries have SMI-S built in, and therefore any SMI-S conformant client should be able to discover them. But it hasn't been conformance-tested because SNIA requires at least two vendors to submit products for testing and a second vendor has not come forward.

Many tape libraries offer a variety of features and tend to require a lot of management. Many of these features are specific to individual products, and typically provide the proprietary differentiators. None of this is likely to fall within the SMI specification however, nor should it.

A storage manager doesn't have to give up standards-based management to get complete control over your storage.

In the case of ADIC, while the libraries are discoverable through any SMI-S console, ADIC has made them manageable through the ADIC API. EMC takes advantage of this. The result is the availability of the ADIC libraries appears in real time on the same SAN topography map as all the other SAN elements, but the libraries are still fully managed through the API.

Other management capabilities also lie outside the specification, a case that becomes obvious as your enterprise storage responsibilities expand to include remote storage. What if you want to manage the whole data path to a remote installation?

You can't understand every event that interacts with data from a remote site if you can't look along the whole data path. SMI-S will be of no help here. For that kind of management capability you will have to look beyond standard storage resource management tools to CentrePath's Magellan management software.

Karp is senior analyst with Enterprise Management Associates. He can be reached at mkarp@enterprisemanagement.com.

MANAGEMENT STRATEGIES

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Hybrid IT help

Companies seek a mix of technology savvy and operational expertise.

BY CARA GARRETSON

There's a new type of position emerging in IT departments called "hybrids," roles that mix technology talent with business acumen or sector-specific experience to create an employee who gets IT, but also gets the company.

Companies should seek and cultivate IT employees who have the skills to analyze how doing their job makes a difference not only to end users, but to the business itself, says Jeff Markham, San Francisco branch manager of Robert Half Technology, an IT staffing and placement firm. These employees "need to know 'how does the company make money, and if I develop an application, how does it affect that?'" Markham says.

Technology has become the backbone of information provider Thomson Corp.'s business because it's the primary way in which the company reaches its customers. "We encourage [the IT staff] to think like the customers and think across [departmental] borders," says Carl Giaimo, senior director with Thomson's Technology Best Practices, a small group of technology professionals who work across the many divisions of Thomson. "The way we get there is an experiential approach; teamwork and exposure to the other groups."

Specifically, the company each year will train about 25 or 30 employees out of its 9,000-strong IT department by pulling in directors from all of Thomson's business units to educate them about company operations.

"The purpose of the program is these guys know the technology, but they need to know the business side. The intent is that they're going to get a significant increase in responsibility within their tech organization within 12 to 18 months," Giaimo says. "By rotating them through the company, it gives them such an advantage of really seeing the big picture."

Community Medical Centers is another business benefiting from this blend of IT and operations savvy.

"I don't think my company would be in the [strong] position we are today if it weren't for those hybrid roles," says Rich Cummins, manager of network services with the healthcare firm in Fresno, Calif. Of Cummins' 11 direct reports, he says about half of them operate in a hybrid role.

The healthcare company has three major IT initiatives underway – one to replace X-ray film with electronic images, another to let doctors remotely sign off on charts and a third to build a portal with access to a number of crucial applications. Without hybrid employees who understand how doctors, nurses and other staffers use these programs, these critical business applications would not be nearly as effective.

"We would have had a vendor come in and install [the applications] and say, 'Well, you're up and running' and have a group support it, but there would be no integration. The beauty of the hybrid role is the person understands the technology infrastructure and the end user," Cummins says.

The concept of the hybrid IT worker isn't new, particularly to transaction-based sectors such as financial services, says David Foote, president of management consultancy and research firm Foote. But the trend is starting to spread to different sectors and reach deeper into the ranks of IT departments. "We're projecting [hybrid jobs] are going to become more and more common in industries where the percentage of the IT budget to overall spending on business processes is much higher than the norm," he says, citing banking, healthcare, retail, insurance and education.

Foote points out that what the hybrid IT staffer represents is much more than a company's desire to align IT with their business. "IT is the business. If you're talking about aligning, you're so far behind you might as well talk about leaving the field," he says.

Despite the benefits these hybrid workers can bring to an organization, it appears they aren't widely recognized, or even identified. Many IT managers have some key staffers who learn quickly, work well with other departments and can converse with marketing or finance nearly as easily as with other IT employees. But few managers have gone so far as to give these individuals distinct titles or adjust their compensation.

"There are certain individuals who work in my department ...but go beyond technology and get into business processes and reengineering," says Autumn Bayles, CIO with Tasty Baking Co., the publicly traded producer of Tastykake baked goods in Philadelphia. "These are high-potential types of people; they can pick up anything quickly. They're not limited to technical tasks."

For example, Bayles loaned one of her team members to help a company warehouse troubleshoot an inventory problem that wasn't an IT issue. Another of Bayles' employees was requested to join a different department, human resources, at Tasty Baking, even though the department has nothing to do with IT. "The appeal was she worked well with the [other] team and has an overall can-do attitude," Bayles says.

Yet these hybrid staffers – which make up about 20% of Bayles' staff of 16 — aren't formally recognized by the company, although their skills are pointed out in conversations and performance reviews, she says.

"And they're looked upon as [job] candidates for departments outside of IT."

It's the same at Community Medical Centers; these key employees are valued, but not necessarily recognized for their combined skills. "I usually have a couple go-to guys on the team, and they're usually juggling three to four critical projects at the same time," Cummins says. "It's not something we've consciously decided is a hybrid role — it just evolved that way."

But Cummins can't let these workers focus only on the company's strategic business applications. "You still have to maintain the network, deploy Microsoft patches, back up the network, manage the data center ...and quite frankly, if you don't do these things at the back end, the business applications aren't going to run." ■

JON CONRAD

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New GUIs enhance wireless LAN tool

BY JOHN COX

AirWave this week plans to release a version of its software with upgraded GUIs that its says makes managing multi-vendor wireless LANs easier.

Version 4 of the AirWave Management Platform includes a "Google-style" user interface designed for help desk staff, a set of Web screens to show more-detailed information about the radio environment for client

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devices, plus the ability to identify and track down rogue access points via a wired LAN.

The new Help-Desk Dashboard consists of screens that let support staff quickly call up user information based on a user's name. The software associates user name with client device, the access point to which it's connected, media access control (MAC) addresses and other current data about a network's performance. New group permissions let support staff see only the WLAN segments for which they have responsibility.

VisualRF, another new graphical feature, builds on the existing Airwave Wireless Site Plan (AWSP) tool. With AWSP, users quickly create a preliminary site plan, with access point locations and configurations from JPEG files, Visio documents or CAD drawings.VisualRF then automatically updates this map with real-time data pulled from the access points. The result is a live, color-coded browser view of the complete radio environment.

"This will be very handy," says Paul Watkins, network analyst with the Network Services group at Newell Rubbermaid, the Atlanta-based manufacturer of consumer products. "We like to get a single overall view of the

net."

Newell Rubbermaid installed AirWave software just more than a year ago to manage about 250 access points in about 25 locations. Most of the access points are Cisco Aironet, but some sites have Intermec or Symbol devices. The company has not yet installed the new software.

Also new from AirWave is an algorithm for automatic radio channel management. The software factors in current or live radio frequency data along with historical data for each access point, and then recommends optimal channel assignments. The VisualRF program can show administrators a before-and-after picture of the network. Once accepted, the recommendations are applied automatically.

"As we install more access points, we find we have to do more [radio] tuning. Automating that would be an important time-saver," Watkins says.

The new release can scan for rogue access points over a WLAN, so it can detect rogues even when they're set up at a remote office or installed beyond the range of an authorized access point. The software scans for MAC addresses, considers several parameters that might indicate a rogue and then flags any suspicious devices.

AirWave Management Platform 4 is scheduled to ship later this month, starting at $3,500 for about 25 access points. ■

turned to open source and collaboration last year as a way to cut costs when faced with the task of replacing more than 150 legacy applications running on a mainframe. While Stein couldn't estimate how much the city will save by collaborating with states such as Massachusetts and Rhode Island, he estimates the costs without collaboration would be about $30 million.

"I'm trying to develop a collaborative development process between peer governments," says Stein, who will participate in the CIO Perspectives Panel at the conference. "We in government have similar needs so why couldn't we develop software collaboratively?"

Peter Quinn, CIO for the commonwealth of Massachusetts, has put the spotlight on open source by pushing for open standards. The state recently finalized a plan to scrap Microsoft's Office software in order to standardize on the Open Document Format for Office Applications.

"Having open document formats and leveraging open standards is absolutely critical to what we're doing," Kveton says.

Stein agrees. "For government, collaboration is where the real value [of open source] is," he says. "The product piece is important ... but by far the value to me is in embracing the parts of the collaborative development methodology that made open source so successful." ■

"None of our users in the field who dial up can get their e-mail," says Steve Bernard, IT support technician for Creative Marketing Associates, a marketing services company in Shelby Township, Mich. His company uses a Cogent T-1, but its SBC dial-up access for mobile users runs through Level 3 servers. Just last week, Creative Marketing Associates had DSL installed as protection against an outage on its Cogent T-1.The company's IT staff is reconfiguring its network to provide an alternate route in for mobile users, over its DSL. Until that change is complete, its remote employees will remain cut off.

A test for Cogent

Crocker Communications Technical Director Matthew Crocker says that how well Cogent handles customer service during this outage will affect his willingness

to re-sign with the company. Crocker calls himself a "reluctant" Cogent customer. His company, a New England telecom provider in Greenfield, Mass., signed its original contract with Verio, which later sold the contract to Cogent. Although Cogent's rates are much less expensive than Verio's, Crocker Communications is locked into paying the higher rate until its contract runs out.

"If I was paying regular Cogent rates I probably wouldn't be upset right now," Crocker says. "But if they're going to make me stay with the Verio contract, then I'm going to make them stay with the Verio[service-level agreement]."

Crocker Communications' Verio agreement specifies 100% network uptime and minuscule packet loss, Crocker says. Right now,he's tracking complete packet loss and no connectivity to Level 3's network. The outage hasn't technically affected Crocker Communications' operations, because it has redundancy agreements in place with Sprint Nextel and Global NAPS.

Crocker is in discussions with his Cogent sales representative and would like the company to issue credits for at least a month of service, assuming this outage lingers.

Cogent's Schaeffer says the company won't be offering credits. "For our customers that are single-homed, we apologize, but we did not cause the problem. There is nothing we can do," he says. Cogent has left its connec-

tions to Level 3 turned on, he says; should Level 3 decide to resume its connection with Cogent at any time, traffic would once again start flowing between their networks.

Cogent also is offering to resolve the problem by taking on Level 3's customers. For any single-homed Level 3 customer in North America or Europe,Cogent is offering a year of free service at the same bandwidth currently being supplied by Level 3.

"The idea is to take Level 3 as the gatekeeper out of the middle and let their customers connect directly to ours," Schaeffer says. "Also, selfishly, we believe that at our price point, their customers will decide to buy additional bandwidth and become paying customers for us."

Level 3 spokeswoman Daumler declined to comment on Cogent's free service offer.

Cogent has long been willing to engage in brinksmanship with its peering fights. It has been through similar battles with AOL and France Telecom, both of which ended peering agreements with Cogent. Eventually, third-party arrangements were struck that let Cogent's traffic connect through outside networks, according to Schaeffer.

Customers expect Cogent's depeering fights to continue; though Crocker, for one, says he would be willing to put up with the spotty connectivity if he could also take advantage of Cogent's cut-rate costs.

"You kind of get what you pay for," he says. ■

REPELS INTRUDERS,
EMBRACES SIP PROTOCOL

Moving to VoIP shouldn't create security issues for your business. It should eliminate them. That's why the Zultys MX250 IP PBX runs on a real-time Linux operating system that is secure and not vulnerable to attack. And, since encryption is a standard feature, it is impossible for anyone to intercept sensitive communications. Best of all, the Zultys MX250 does all this straight out of the box. To learn more about adding secure VoIP, access www.zultys.com/nw.

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VoIP vs. VoIQ

BACKSPIN Mark Gibbs

Dealing with crazy corporations

I've just seen the most remarkable documentary called "The Corporation" (www.networkworld.com, DocFinder: 9244), which is based on a book by Joel Bakan called *The Corporation: The Pathological Pursuit of Profit and Power*.

The film is an astounding analysis of the nature of big business, and one of its primary conclusions is underlined by the subtitle of the book — that large corporations are clinically insane.

Let me clarify that: In law a corporation is an individual similar to you or me. When you compare the behavior and characteristics of publicly held, large corporations to the diagnostic criteria of the World Health Organization and those of DSM-IV, a standard psychiatric diagnostic tool (DocFinder: 9245), you find that these organizations are effectively psychopathic (DocFinder: 9246).

Most importantly, this isn't an attribute of one or two large corporations; it applies to the majority worldwide. Even more profoundly, it appears to be the inescapable fate of public corporations because their essential function is to be profit-making machines that relegate all other functions and attributes (social, cultural, political, technological and economic roles) to a distant second place. Essentially, the end (profits) will always justify the means (whatever it takes) because that is how corporations are defined.

A few weeks ago I wrote a Backspin column titled "Google: The immaturity of huge masses" (DocFinder: 9247) about the nature of large companies. I contended that Google wouldn't become evil, but after seeing "The Corporation" I think I was wrong. What I was wrong about was in using the term "evil." I now realize that, like most other public corporations, Google can't help but become amoral and ultimately psychopathic.

You might wonder if this comes about because bad people get to run what could have been good companies, but as the film repeatedly points out, the gestalt that is the corporation has far more power than the good intentions of any individual or group in the corporation. Moreover, there are many corporate employees who are all too willing to fall in with the psychopathic program that the corporation creates.

This explains, for example, why Microsoft always tries to lock out the competition, why it perverts standards to retain market control and why it finds it hard to stay away from monopolistic practices in general. It's not that the people are necessarily bad, it is the corporation they work for that makes their efforts have bad results.

It explains why all major telcos and cell phone service providers have lousy customer service. ("We don't care. We don't have to. We're the telephone company.") It also explains why MCI was once and might still be "rotten to the core" as I discussed in a previous column (DocFinder: 9248).

I say "might still be" because I just got a letter from an ex-MCI employee who claims she was laid off in January last year because she wouldn't go along with certain illegalities that were being committed. While we can't vouch for the veracity of her claim, her story is remarkable for the sheer hostility of management's response.

This view of corporate behavior as psychopathic also illuminates why the Recording Industry Association of America (RIAA) is so aggressively going after alleged illegal music downloaders.

A recent and remarkable example of this is Tanya Anderson, a 42-year-old disabled single mother from Oregon accused of downloading gangster rap (see DocFinder: 9249 and 9250 for the full story). The RIAA allegedly hired a company called MediaSentry to hack into Anderson's computer looking for evidence.

Anderson claims she was contacted by the RIAA's Settlement Support Center, which acknowledged she was probably innocent. But they told her she should settle because the RIAA would proceed with a suit against her anyway "to discourage others from attempting to defend themselves against unwarranted litigation."

So now that we know why these companies act as they do, we can be more rational and less surprised when they do. The fact is the chance of any change in the way corporations behave is next to zero, at least in our lifetimes. Until then, forewarned is forearmed.

Are you armed? Tell at backspin@gibbs.com or on Gibbsblog (www.networkworld.com/weblogs/gibbsblog).

NETBUZZ News, insights, opinions and oddities

Paul McNamara

Life in VC land

The venture capital industry is technology's canary in a coal mine, so keeping an eye on its health makes sense. I recently had an opportunity to sit in on a presentation by Mark Heeson, president of the National Venture Capital Association, and he offered a number of insights worth sharing here.

First off, Heeson says, reports that the canary is looking much like the "ex-parrot" of Monty Python fame are way off the mark. Despite the fact that the pile of dollars being divvied up by venture-backed companies remains dramatically below Internet bubble levels, the number of venture capital firms has remained relatively stable. Venture capital funds will dole out about $25 billion this year and some $70 billion from 2003 through 2005, as compared with about $210 billion during a three-year span in the midst of that bygone euphoria.

"We have intense interest from [limited partners] in investing in this asset class right now," Heeson says. "We'll see about $25 billion being raised this year by venture capitalists, and that could easily have been $100 billion."

As a result, would-be investors are finding themselves waving more money at funds than the funds are willing to take. Exacerbating that squeeze is the fact that more funds are accepting foreign dollars.

"You're seeing some funds, which in the past took no foreign money, and are now taking 25% of their funds from foreign [sources]. And who's that coming at the expense of? A lot of it is coming at the expense of your public" pension funds.

Those public institutions also are having their investment strategies hampered by federal regulations such as the Freedom of Information Act. As the venture community finds smaller funds possible and prudent, the desire to raise money absent the strictures of public disclosure becomes more tempting. Venture capitalists and their start-ups are valuing secrecy more — and longer.

"They're saying we don't want anybody to know about these early-stage deals," Heeson says. "We'll carry the first round on our own, maybe even the second if we can, and then once we think there's something there then we'll take this thing out with other venture capital firms or bring it out into the public domain."

Not only have the dynamics of the front end changed for venture capitalists, the back end doesn't look at all like it used to either. Those sexy initial public stock offerings that made the bubble years so bubblelicious have all but disappeared, with only 20 IPOs of venture-backed companies in the first six months of this year.

"That is pretty abysmal, and many of those venture-backed IPOs have not done terribly well since they've gone public," Heeson says. "Only about 50% of them are trading above their opening level. It's still a real poor environment to go public right now."

Curiously enough, however, this abysmal record isn't stopping a lot of start-ups from filing the paperwork necessary to launch a stock offering. It's apparently a bit of a head-fake combined with cagey salesmanship.

"What we're seeing more and more of is this double-tracking strategy: They're saying, 'I'm registering to go public, but I'm not really going public — I'm for sale. And, by the way, because I've been able to register, I'm Sarbanes-Oxley compliant, so I'm clean.'"

This approach offers a better exit scenario than an IPO, Heeson says, primarily because the mergers-and-acquisitions climate is much more hospitable. The M&A tally has held steady at about 350 deals annually for several years now — and those companies that are being bought are fetching more money, too.

"We actually have a very good M&A market right now. We're seeing very strong acquisitions across the board in all technologies: life sciences, communications, IT," Heeson says. "Two years after the bubble we had literally not a single acquisition where you got more than four times your [invested] money. This year we're going to have at least a third of all acquisitions at four times the money put in, and many of them are going to be 10 times what was put in."

Sounds healthy enough.

Care to venture an opinion? The address is buzz@nww.com.

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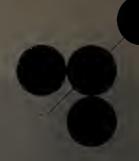# inside

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